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December 17, 2012

Via HAND DELIVERY

Cynthia T Brown
Chief, Section of Administration
Surface Transportation Board
395 E Street SW
Washington DC 20423

233527

Re. Finance Docket No. 30186, Tongue River Railroad Company, Inc.--Rail
Construction and Operation--In Custer, Powder River and Rosebud Counties, MT

Dear Ms Brown:

Enclosed for filing in the above-captioned docket are the original plus ten copies of
Tongue River Railroad Company, Inc.'s Supplemental Application for Construction and
Operation Authority. Also enclosed are two CDs, each containing a pdf of the filing

Please date-stamp the additional copy of this filing and return it to the messenger for our
files.

Sincerely,

David H. Coburn

ENTERED
Office of Proceedings

DEC 18 2012

Part of
Public Record

Betty Jo Christian
David H. Coburn
Linda S. Stein
Attorneys for Tongue River Railroad Company, Inc

Encl.

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

STB FINANCE DOCKET NO. 30186



**TONGUE RIVER RAILROAD COMPANY, INC. – RAIL CONSTRUCTION
AND OPERATION – IN CUSTER, POWDER RIVER AND
ROSEBUD COUNTIES, MT**

**SUPPLEMENTAL APPLICATION FOR CONSTRUCTION AND OPERATION
AUTHORITY**

**ENTERED
Office of Proceedings
DEC 18 2012
Part of
Public Record**

Betty Jo Christian
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Attorneys for Applicant
Tongue River Railroad Company, Inc.

Dated: December 17, 2012

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**BEFORE THE
SURFACE TRANSPORTATION BOARD**

STB FINANCE DOCKET NO. 30186

**TONGUE RIVER RAILROAD COMPANY, INC. – RAIL CONSTRUCTION
AND OPERATION – IN CUSTER, POWDER RIVER AND
ROSEBUD COUNTIES, MT**

**SUPPLEMENTAL APPLICATION FOR CONSTRUCTION AND OPERATION
AUTHORITY**

Pursuant to the Surface Transportation Board's ("STB" or "Board") decision served June 18, 2012 reopening the above-referenced docket (hereafter "June 18 Decision") and the November 1, 2012 Decision (hereafter "November 1 Decision") clarifying the June 18 Decision, Tongue River Railroad Company, Inc. ("TRRC") hereby submits this Supplemental Application for Construction and Operation Authority ("Supplemental Application"), under 49 U.S.C. § 10901 and 49 C.F.R. § 1150.1, *et seq.* This Supplemental Application supersedes the October 16, 2012 Revised Application filed by TRRC. Herein, TRRC will describe the common carrier railroad that TRRC intends to construct in Powder River and Rosebud Counties, Montana, and provide all of the information and justification required under the relevant statute and the Board's rules to allow the Board to authorize construction and operation of the proposed rail line that is the subject of this Supplemental Application. As discussed further below, the line proposed to be constructed by TRRC would be operated solely by BNSF Railway Company ("BNSF")

TRRC intends to construct a common carrier rail line that will serve any reasonable request for service by shippers that locate along the line, including the planned coal mine that

Otter Creek Coal, LLC ("Otter Creek Coal") is in the process of permitting at Otter Creek, MT and any future coal mines that may be developed in the Otter Creek and Ashland, MT area. The primary purpose of the TRRC rail line now proposed -- to facilitate the transportation of substantial coal resources that otherwise have no viable transportation alternatives -- is no different than the rail line approved for construction and operation by the Interstate Commerce Commission ("ICC"), the Board's predecessor, in the TRRC I proceeding in 1986.¹ However, the need for the railroad is now more immediate given the pending mine application of Otter Creek Coal.

TRRC previously proposed in its October 16 Revised Application the construction of a line between Miles City, MT and Ashland/Otter Creek, MT following with some modification the alignment for the TRRC rail line approved by the ICC. However, TRRC herein proposes as its preferred alignment a different routing, hereafter referred to as the "Colstrip Alignment." TRRC makes this change to its proposal in light of additional engineering and other data that has been collected and analyzed in recent weeks that has led it to conclude that the Colstrip Alignment offers the shortest, most cost-effective and least environmentally impactful routing for the proposed line. TRRC has also determined that the Colstrip Alignment is operationally feasible for the unit trains of coal that would traverse it.

The Colstrip Alignment has been among the alignments considered for the TRRC line since the ICC proceeding was initiated. A modestly different version of the alignment was assessed in detail by the ICC in its TRRC Draft and Final Environmental Impact Statements ("EISs") in the previous TRRC I proceeding and determined at that time to be among the feasible

¹ Finance Docket No. 30186, *Tongue River R.R. - Rail Construction and Operation - In Custer, Power River and Rosebud Counties, MT* (ICC served May 9, 1986) (hereafter "1986 Decision").

routes for the TRRC line ² That Alignment also was among the alignments that the Board's Office of Environmental Analysis ("OEA") has identified for further review in the new EIS to be prepared in this proceeding. *See* Draft Scoping Notice issued October 22, 2012 at 4. OEA therefore solicited and received public comment on the Colstrip Alignment at the November 12-16 scoping meetings that were held in the area and in written scoping comments still in the process of being submitted.³

The 42-mile Colstrip Alignment, depicted on the map at Exhibit C to this Application, would allow the transportation of coal and other products on the TRRC line between the Otter Creek/Ashland area and BNSF's Forsyth Subdivision and therefore the national rail network. It would connect at its northern end with an existing and lightly used BNSF line known as the Colstrip Subdivision, which currently connects with the Forsyth Subdivision at Nichols Wye, a point approximately 6 miles west of Forsyth and approximately 50 miles west of Miles City. At its southern end, the Colstrip Alignment will have the same two termini south of Ashland, Montana proposed by TRRC in its October 2012 Application. Terminus Point 1 at the previously proposed Montco Mine location and Terminus Point 2 along the Otter Creek drainage.

Because it connects to the existing BNSF Colstrip Subdivision, only 42 miles of new track would need to be constructed for the TRRC Colstrip Alignment. That is less than half of the new construction that would be required in comparison to the approximately 89-mile Miles City route previously approved by the ICC in the TRRC I proceeding and only marginally more than half of the new construction that would be required under the modified version of that Miles

² TRRC has made one modest modification, described further below, to the previously-considered version of the Colstrip Alignment. That modification is designed to align the route more closely with an existing road and thus reduce environmental impacts.

³ OEA has extended the deadline for scoping comments through January 11, 2013, which will thereby allow additional comments to be received on the Colstrip Alignment proposal.

City route, which was proposed in TRRC's October 16, 2012 Application. (We will refer to that alignment here as the "Modified Miles City Alignment"). The southernmost approximately 22 miles of the Colstrip Alignment would follow the Modified Miles City alignment to Terminus Point 1 and also follow that alignment to Terminus Point 2 at Otter Creek. The northern approximately 20 miles of the Colstrip Alignment will largely follow existing county and state road corridors to the point of connection with the Colstrip Subdivision south of the city of Colstrip.

This significant reduction in mileage of required new track proposed here for the TRRC line will substantially reduce environmental impacts, particularly land use impacts and impacts to agriculture and water quality. Further, there will be a substantial reduction of impacts within the Tongue River valley relative to the previously approved alignment because the Colstrip Alignment traverses only 17 miles within that valley versus approximately 81 miles for the Miles City alignment approved by the ICC and 77 miles for the Modified Miles City Alignment. Moreover, the Colstrip Alignment, which has the additional benefit of largely following existing road corridors, also avoids altogether the Miles City area, including the Miles City Fish Hatchery and the United States Department of Agriculture's Livestock and Range Research Station ("LARRS") facility. The Colstrip Alignment thereby eliminates a source of environmental impacts that have proven controversial in the past. While a thorough comparative analysis will be undertaken in the forthcoming EIS, various additional advantages of the Colstrip Alignment are described further below.

Although TRRC is now proposing to change its preferred alignment for the TRRC line, neither the purpose of the railroad nor the public necessity and convenience factors that justify its

construction and operation has diminished.⁴ The ICC found in 1986 that a common carrier rail line between the Otter Creek/Ashland area and Miles City serves the public interest for the transportation of coal resources. That same determination holds with even greater force in 2012 for the Colstrip Alignment, which will likewise be used to transport vital coal resources in response to market demands. As will be shown in this Application and the verified statements submitted in support of it, the developer of the Otter Creek mine, a subsidiary of Arch Coal, is moving forward to develop the very substantial low sulfur, sub-bituminous coal resources at Otter Creek and to transport that coal via the TRRC. Arch in fact has chosen to invest in the TRRC, having assumed an approximately one third ownership share in TRRC's parent. Further, BNSF, which already has a substantial network of rail lines serving the Powder River Basin, is likewise confident that the TRRC rail line will be used to transport a significant volume of coal between Otter Creek and the national rail network. BNSF has demonstrated this confidence by also investing as an approximately one third owner in TRRC's parent. BNSF is also the proposed sole operator of the TRRC line and in that capacity joins in this Supplemental Application.

The State of Montana, which has already benefited from the leasing of the coal tracts at Otter Creek, will benefit from royalties earned from the coal production at Otter Creek as well as from increased employment and associated economic development. These significant public benefits are discussed further below.

⁴ Should the permitting agencies, including the STB, decide that some other alignment from among the alternatives being considered is preferable, TRRC is not hereby foreclosing the possibility that the line would be constructed along a different alignment.

TRRC does not intend to construct the rail lines south of Terminus Points 1 & 2 (located south of Ashland, MT) that were the subject of its applications in the now-dismissed TRRC II⁵ and TRRC III⁶ proceedings. Thus, the various concerns raised by Native American groups, the National Park Service and others about building a rail line south of the Ashland area and proximate to the historically significant Wolf Mountains battlefield site are no longer pertinent.

In further support of this Application, TRRC submits the following information as required by 49 C.F.R. Part 1150 and contemplated by the Board's June 18 and November 1 Decisions.

OVERVIEW (Section 1150.2)

(a) A brief narrative description of the proposal.

By this Supplemental Application, TRRC is seeking authority to construct and operate a rail line between Colstrip, MT and Ashland/Otter Creek, MT, the southern portion of which was previously approved by the ICC in 1986. The principal purpose of the Tongue River Railroad project is to transport low sulfur, sub-bituminous coal, from mine sites developed in Rosebud and Powder River Counties, Montana, including proposed mines in the Otter Creek area.

The coal resources available for transportation from the Otter Creek area will be substantial, consisting of the about 1.5 billion tons, which makes Otter Creek one of largest undeveloped sources of low sulfur, sub-bituminous coal in the United States. See Rowlands VS

⁵ The TRRC II proceeding is Finance Docket No. 30186 (Sub-No. 2), *Tongue River Railroad Company – Rail Construction and Operations – Ashland to Decker, Montana*.

⁶ The TRRC III proceeding is Finance Docket No. 30186 (Sub-No. 3), *Tongue River Railroad Company, Inc – Construction and Operations – Western Alignment*

at 2.⁷ The TRRC line will provide the only rail service available to this resource and to other considerable coal resources in the Ashland area. *Id.* See Bobb VS at 5.

Development of the Otter Creek coal resource is moving forward at this time. Following approval of the Montana State Land Board on March 18, 2010, the Otter Creek coal tracts were leased by the State of Montana to Ark Land Company ("Ark"); a subsidiary of Arch Coal Inc. ("Arch"). Those coal resources have been aggregated with other coal resources on adjoining coal tracts now controlled by Ark. Otter Creek Coal, a subsidiary of Arch and an affiliate of Ark, has already sought and obtained a prospecting permit from the Montana Department of Environmental Quality ("MDEQ") for the Otter Creek area. On July 26, 2012, Otter Creek Coal filed a mine permit application with MDEQ seeking authority to develop and operate a substantial coal mine in the Otter Creek area. See Rowlands VS at 2. On December 14, 2012, MDEQ issued a determination that the Otter Creek Coal permit application was administratively complete and that MDEQ will proceed with environmental review of the mine proposal. See <http://www.deq.mt.gov/ea/coal.mcpix>

The TRRC line will provide a direct and efficient link between the coal resources and the national rail network. The northern end of the proposed rail line will connect to the existing BNSF Colstrip Subdivision just south of Colstrip, MT and then generally parallel existing State and County roads to the southeast to the Tongue River where it will turn south traversing a route east of Ashland to a bifurcation point south of that community where it will split into two branches – (1) one of which will continue southwest and terminate at Terminus Point 1, the previously proposed Montco Mine location ("Montco Mine Spur"), and (2) the other of which

⁷ See Verified Statement of William M. Rowlands, President of Otter Creek Coal (hereafter "Rowlands VS"). The verified statements of William Rowlands and Stevan Bobb, President of Tongue River Railroad Company, Inc., (hereafter "Bobb VS") are included in Appendix A.

will continue south along the Otter Creek drainage to Terminus Point 2 at the planned Otter Creek Mine ("Otter Creek Spur"). See Exhibit C map of proposed line.

The proposed rail line is generally consistent with the Colstrip Alternative analyzed in the 1986 Decision, with the exception of approximately five miles of the rail line, which will now generally parallel Greenleaf Road (S-447) rather than Roe & Cooper Creek as originally considered. From approximately nine miles north of Ashland to Terminus Points 1 and 2, the proposed Colstrip Alignment, with some refinements, matches the rail line previously approved by the ICC in 1986. The refinements to the alignment address rail operational considerations that were raised subsequent to the 1986 Decision. They generally entail a straightening and shortening of the rail alignment approved in 1986. Most of these refinements were considered in the TRRC III proceeding. The refinements are illustrated in Exhibit C, which includes a schematic diagram comparing the alignment of the Otter Creek Spur considered in 1986 with the alignments now proposed and also includes aerial photos which are reproduced from the Final EIS in the TRRC III proceeding showing the modifications to the portion of the alignment that is now part of the proposed Colstrip Alignment.⁸

The proposed TRRC rail line will connect to the existing BNSF Forsyth Subdivision main line via the existing BNSF Colstrip Subdivision branch line. See Exhibit C. Upgrades to the existing BNSF Colstrip Subdivision and the connection between the Colstrip and Forsyth Subdivisions, known as Nichols Wye, will be made to bring the BNSF branch line up to current main line standards. Construction of the TRRC rail line will commence near the south end of the

⁸ The aerial photos describe the refinements as "1998" refinements, reflecting the date that they were first proposed. The photos reflect the names of property owners at the time these photos were taken, but the ownership information may no longer be accurate. The photos do not reflect the refinements to the Otter Creek Spur, which are shown on the map that is also part of Exhibit C.

BNSF Colstrip Subdivision (Point A on the first map in Exhibit C) and continue generally southeast to Ashland, MT and then south of Ashland to the two branch lines – the Otter Creek Spur and the Montco Mine Spur.

Because the Colstrip Alignment is significantly shorter in length than the route previously approved in 1986, the proposed TRRC rail line will require less land to be acquired for the right-of-way, will result in fewer at-grade private crossings, and will result in a lesser volume of earth work. As a result of moving the north end of the rail line to Colstrip from Miles City, construction of the Colstrip Alignment will utilize existing transportation corridors to a far greater extent than the previously approved route, and will result in a rail line that parallels the Tongue River valley for only a fraction of the distance compared to the previously approved route with attendant environmental, operating and economic advantages. Moreover, unlike the previously approved route, the Colstrip Alignment will result in no encroachment of the Miles City Fish Hatchery or the United States Department of Agriculture LARRS facility.

(b) The full name and address of applicant(s).

TRRC's full name and address is:

Tongue River Railroad Company, Inc.
1302 24th Street West, #315
Billings, MT 59102

INFORMATION ABOUT APPLICANT(S) (Section 1150.3)

(a) The name, address, and phone number of the representative to receive correspondence concerning this application

Correspondence relating to this Supplemental Application should be directed to the following representative of TRRC:

David H. Coburn
Steptoe & Johnson LLP
1330 Connecticut Avenue, N.W.

Washington, DC 20036
(202) 429-8063
(202) 261-0565 (FAX)
dcoburn@steptoe.com

(b) **Facts showing that applicant is either a common carrier by railroad or has been organized to implement the proposal for which approval is being sought.**

The Tongue River Railroad Company, Inc. is a corporation that was formed to construct the rail line previously approved by the Board and its predecessor in the 1986 Decision, the 1996 TRRC II Decision and the 2007 TRRC III Decision.⁹ TRRC no longer seeks to construct the rail line from Terminus Point 1 to Decker, Montana authorized in the 1996 TRRC II Decision and the 2007 TRRC III Decision.

A copy of the Certificate of Incorporation of Tongue River Railroad Company, Inc. is attached hereto as Exhibit B. This is the same Certificate that was filed on May 1, 2003 as Exhibit I to the Supplemental Verified Statement of Mike T. Gustafson included with the Supplemental Evidence of Tongue River Railroad Company in Finance Docket No. 30186 (Sub-No. 3).

As the Certificate of Incorporation reveals, TRRC was organized, among other things, to design, plan, conduct engineering studies of, arrange financing for, and obtain all necessary federal, state, and local permits and authorizations for the construction and the operation of, to secure rights-of-way for and to construct, equip and operate railroads. TRRC intends that its line

⁹ The 1996 TRRC II Decision authorized TRRC to construct a rail line south of Ashland, MT to Decker, MT. See Finance Docket No. 30186 (Sub-No. 2), *Tongue River Railroad Co. – Rail Construction and Operation – Ashland to Decker, Montana* (served Nov. 8, 1996). The 2007 TRRC III Decision authorized TRRC to construct the rail line from Ashland, to Decker, MT via the Western Alignment rather than the Four Mile Creek Alternative. See Finance Docket No. 30186 (Sub-No. 3), *Tongue River Railroad Company, Inc. – Construction and Operation – Western Alignment* (served Oct. 9, 2007).

be operated as a common carrier line that transports coal and any other commodities that may be transported on reasonable request by shippers that locate on its rail line.

- (c) A statement indicating whether the rail line will be operated by applicant. If not, the operator which has been selected must join in the application, and provide all information required for an applicant. If the operator has not yet been selected, state who is being considered.

BNSF is expected to be the sole operator over TRRC's rail line pursuant to an agreement that has yet to be reached. TRRC will promptly inform the Board when a final agreement is reached with BNSF.

- (d) A statement indicating whether applicant is affiliated by stock ownership or otherwise with any industry to be served by the line. If so, provide details about the nature and extent of the affiliation.

The only stockholder of Tongue River Railroad Company, Inc. is Tongue River Holding Company, LLC ("TRR Holding"), a Delaware limited liability company. Arch, a non-carrier, holds a 34.68% membership interest in TRR Holding. BNSF, the expected operator, also holds a 34.68% membership interest in TRR Holding. Ark has leased the Otter Creek coal tracts from the State of Montana and Great Northern Properties Limited Partnership ("GNP"). Coal produced from those Otter Creek coal tracts is to be served by the TRRC rail line.

- (e) Date and place of organization, applicable State statutes, and a brief description of the nature and objectives of the organization.

TRRC was incorporated in the State of Delaware on September 4, 1998 pursuant to Delaware General Corporation Law. Prior to that, TRRC was registered as a Montana limited liability partnership with the Office of the Secretary of the State of Montana on June 19, 1981, under Document 283235, according to the provisions of the Montana Limited Partnership Act, Title 35, Chapter 12, MCA, 1981, and, to the extent applicable, of the Montana Uniform Partnership Act, Title 35, Chapter 10, MCA, 1981.

This corporation was organized to project, design, plan, conduct engineering studies of, arrange financing for, and obtain all applicable federal, state, and local permits and authorizations for the construction and the operation of, to secure rights-of-way for, and to construct, equip and operate railroads. As first reported to the Board in July 2011, on July 1, 2011, all of the stock of TRRC was sold to TRR Holding, which is jointly owned by BNSF, Arch Coal, Inc. and non-carrier TRR Financing, LLC ("TRR Financing"), a Delaware limited liability company controlled by Mr. Forrest E. Mars, Jr.

BNSF, the expected sole operator, was originally incorporated in the State of Delaware under the name Great Northern Pacific & Burlington Lines, Inc. on January 13, 1961 pursuant to General Corporation Law of Delaware. The purpose of the corporation was to engage in any lawful act or activity for which corporations organized under the General Corporation Law of the State of Delaware as the same existed at the time of incorporation or might be thereafter amended.

(f) If a corporation, submit:

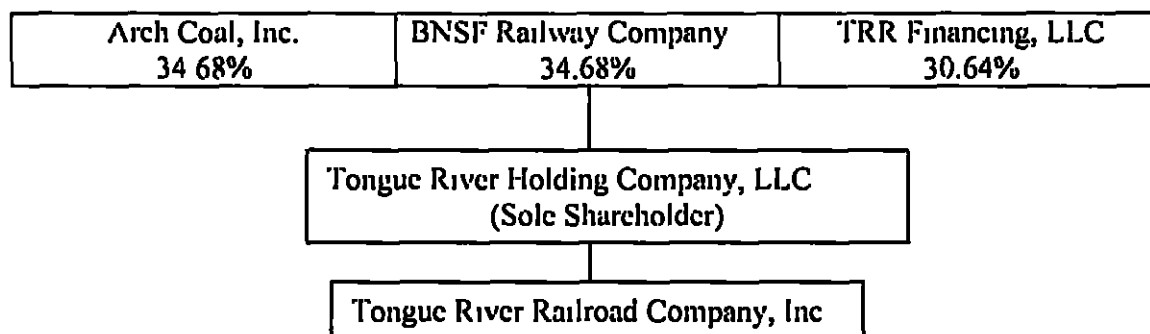
- (1) A list of officers, directors, and 10 principal stockholders of the corporation and their respective holdings. A statement whether any of these officers, directors or major shareholders control other regulated carriers. Also a list of entities, corporation(s), individual(s), or group(s) who control applicant, the extent of control, and whether any of them control other common carriers.**
-

The officers and directors of Tongue River Railroad Company, Inc. are

Stevan B. Bobb	President
Julie A. Piggott	Vice President – Finance
C. Alec Vincent	Treasurer
Robert M. Criswell	Secretary

Stevan B. Bobb	Director
Ken Cochran	Director

As shown in the table below, the sole shareholder of Tongue River Railroad Company, Inc is TRR Holding, a Delaware limited liability company BNSF, Arch Coal, Inc., and TRR Financing each own approximately a one-third, more or less, interest in TRR Holding.



None of TRRC's officers, directors, or its sole stockholder, TRR Holding, control other regulated carriers. No entities that control applicant control other common carriers. However, BNSF plans to shortly submit an application to the STB seeking authority to acquire control of TRRC under 49 U.S.C. § 11323(a) (3).

The officers and directors of BNSF, the expected operator, are:

Matthew K. Rose	Chairman and Chief Executive Officer
Carl R. Ice	President and Chief Operating Officer
Gregory C. Fox	Executive Vice President – Operations
Thomas N. Hund	Executive Vice President and Chief Financial Officer
Stevan B. Bobb	Executive Vice President and Chief Marketing Officer
Roger Nober	Executive Vice President - Law and Secretary
John O. Ambler	Vice President – Corporate Relations
Paul B. Anderson	Vice President – Marketing Support
Michael R. Annis	Vice President - Tax
Paul W. Bischler	Vice President and Chief Sourcing Officer
Stephen G. Brunscum	Group Vice President – Coal
Rollin D. Bredenberg	Vice President – Capacity Planning and Operations Research
M. Rizwan Chand	Vice President and Chief Human Resources Officer

Frederick G. (Fritz) Draper	Vice President - Business Unit Operations
George Duggan	Vice President - Coal Marketing
Kathryn M. Farmer	Group Vice President - Consumer Products
John J. Fleps	Vice President - Labor Relations
David L. Freeman	Vice President - Transportation
David L. Garin	Group Vice President - Industrial Products
Amy C. Hawkins	Vice President - Government Affairs
Kevin Kaufman	Group Vice President - Agricultural Products
Robert W. Lease	Vice President - Service Design and Performance
John D. Lovenburg	Vice President - Environmental
Frederick R. Malesa	Vice President International Intermodal Marketing
John Miller	Vice President - Industrial Products Sales
Jo-ann M. Olsovsky	Vice President - Technology Services and Chief Information Officer
Julie A. Piggott	Vice President - Planning & Studies and Controller
Rob M. Reilly	Regional Vice President - Operations
Chris A. Roberts	Vice President - Mechanical and Value Engineering
Mark A. Schulze	Vice President - Safety, Training and Operations Support
Sanford C. Sexhus	Vice President - Engineering
Charles W. Shewmake	Vice President and General Counsel
Michael C. Shircliff	Regional Vice President - Operations
Denis J. Smith	Vice President - Industrial Products Marketing
Jon Stevens	Assistant Vice President and Assistant Controller
David W. Stropes	Vice President - Corporate Audit Services
C. Alec Vincent	Assistant Vice President - Finance and Treasurer
Richard E. Weicher	Vice President and General Counsel - Regulatory
Thomas G. Williams	Vice President Domestic Intermodal Marketing
Dean H. Wise	Vice President - Network Strategy
Jeffrey B. Wright	Regional Vice President - Operations
Judy K. Carter	Assistant Secretary
Peter M. Lee	Assistant Secretary
Beth A. Miller	Assistant Treasurer
Vickie J. Popejoy	Assistant Secretary
Jeffrey T. Williams	Assistant Secretary

Patricia Zbichorski	Assistant Secretary
Kurt A. Geringer	Vice President (limited authority)

Matthew K. Rose	Director
Carl R. Ice	Director
Gregory C. Fox	Director
Thomas N. Hund	Director
John P. Lanigan, Jr	Director
Roger Nober	Director

- (2) **As exhibit A, any resolution of the stockholders or directors authorizing the proposal.**

See Exhibit A attached.

Section 1150.3, Paragraphs 2(g), 2(h), 2(i) and 2(j) are inapplicable.

INFORMATION ABOUT THE PROPOSAL (Section 1150.4)

- (a) **A description of the proposal and the significant terms and conditions, including consideration to be paid (monetary or otherwise). As exhibit B, copies of all relevant agreements.**

This Supplemental Application seeks Board authorization to construct a rail line between Colstrip, MT and Ashland/Otter Creek, MT referred to as the Colstrip Alignment. The Colstrip Alignment connects to the BNSF Forsyth Subdivision main line via the existing BNSF Colstrip Subdivision branch line, which intersects the Forsyth Subdivision at a BNSF station known as "Nichols Wye" approximately six miles west of Forsyth, MT. Upgrades to the BNSF Colstrip Subdivision and the connection between the Colstrip and Forsyth Subdivisions will be made to bring the branch line up to current main line standards.

The north end of the TRRC rail line will connect to the existing BNSF Colstrip Subdivision just south of Colstrip, MT (Point A on the first map in Exhibit C) and continue southeast, crossing and paralleling Cowcreek Road for about seven miles before crossing Rosebud Creek Road and then Greenleaf Road (S-447). The rail line will then run generally

parallel to Greenleaf Road for about eleven miles to the southeast before crossing Tongue River Road (S-332) and then the Tongue River.

From just east of the Tongue River crossing, approximately nine miles north of Ashland, MT, the proposed TRRC rail line will begin to match the alignment previously approved in 1986, with some refinements, and continue south traversing a route east of Ashland where the line will divide at a bifurcation point, with one branch proceeding up the Otter Creek drainage to Terminus Point 2 and the other branch extending up the Tongue River valley to the previously proposed Montco Mine at Terminus Point 1. The refinements to the rail line approved in 1986 on the southern portion of the Colstrip Alignment have been made to the proposed preliminary track centerline based upon more detailed analysis. These refinements result in a variance that is generally no more than one-quarter mile from that portion of the rail line approved in 1986. See aerial views and schematic showing refinements at Exhibit C

The TRRC rail line will be a single track facility constructed of continuous-welded rail, and will be built and maintained to Federal Railroad Administration ("FRA") Class 3 standards. The rail will be placed on a prepared grade and will occupy a minimum right-of-way ("ROW") of 200 feet. TRRC will of course be subject to FRA safety standards.

The TRRC rail line design includes one passing siding with 8,500 foot clear length. The siding will be constructed as volumes warrant. The location of the siding will be determined based on further engineering work. Number 20 electric powered switches will be used to permit route diversion at speeds up to 40 MPH. In addition to the passing siding, approximately three set-out tracks between 500 feet and 4,000 feet in length (between clearance points) will be constructed of continuous-welded rail, and will provide for temporary storage of cars requiring repair and for storage and clearing of maintenance equipment.

The estimated construction cost (in 2013 dollars) of the proposed TRRC rail line is approximately \$416 million. The estimate includes all costs associated with excavation, major structure installation, construction reclamation, track installation, signals and communications system, and railroad infrastructure. A break-out of the costs is contained in Appendix B.

(b) Details about the amount of traffic and a general description of commodities.

The primary commodity to be transported over the TRRC rail line will be coal moving from the proposed Otter Creek coal mine and other mines that might be developed in the future in the Ashland area. The coal reserves subject to the leases between Ark and the State of Montana and the lease between Ark and GNP in the Otter Creek area near Ashland contain approximately 1.5 billion tons of low sulfur, sub-bituminous coal. *See* Rowlands VS at 2. Construction of the TRRC line will provide, for the first time, rail service to one of the largest remaining undeveloped reserves of low sulfur, sub-bituminous coal in the United States. *Id.* As explained in the Rowlands Verified Statement at 3, TRRC anticipates that, at full production, approximately 20 million tons of coal will be moved annually over the TRRC line from Otter Creek Coal's planned mine in the Otter Creek area. When the mine is at full production, coal tonnage hauled will result in approximately 26 round trips per week on a 7-day weekly schedule.

(c) The purposes of the proposal and an explanation of why the public convenience and necessity require or permit the proposal.¹⁰

Under the current public convenience and necessity statutory provision in 49 U.S.C. § 10901(c) that was adopted in ICCTA in 1995, the Board must approve a construction application unless it finds that the construction is "inconsistent with the public convenience and necessity." Under the prior provision in effect before 1995, the Board's predecessor was

¹⁰ As explained herein, the language of 49 C.F.R. § 1150.4(c) does not reflect the current statutory standard as modified by the Interstate Commerce Commission Termination Act of 1995 ("ICCTA").

required to approve a construction application if it found that “present or future public convenience and necessity require[d] or permit[ted]” it.¹¹ The current public convenience and necessity standard is more relaxed than the previous standard and creates “a statutory presumption that rail construction is to be approved.” See, e.g., *Mid States Coal. Progress v Surface Transp. Bd.* 345 F.3d 520, 552 (2003); Finance Docket No. 30186 (Sub-No. 3), *Tongue River Railroad Company, Inc. – Construction and Operations – Western Alignment*, at 13 (served Oct. 9, 2007)

The Board has approved several recent rail construction applications, finding that they met the public convenience and necessity standard or warranted an exemption from regulation. See Finance Docket No. 35095, *Alaska Railroad Corporation – Construction and Operation Exemption – A Rail Line Extension to Port Mackenzie, Alaska*, (served Nov. 21, 2011); Finance Docket No. 34284, *Southwest Gulf Railroad Company – Construction and Operation Exemption – Medina County, Tx*, (served Dec. 18, 2008); Finance Docket No. 33407 *Dakota, Minnesota & Eastern Railroad Corporation Construction into the Powder River Basin* (served Feb. 15, 2006)

The current public convenience and necessity standard applies to this Supplemental Application. While this proceeding was originally opened in the 1980s when the prior provision was in effect, the Board has made it clear that it is undertaking a full review of TRRC’s application, treating it like a new application. As the Board explained in its November 1 Decision at 2

We make clear here that we reopened the *Tongue River I* proceeding to review in full what is now the entire *Tongue River I* line construction project. The Board’s review will include not only the new environmental review of the entire construction project that will be prepared, but also an examination of the transportation merits supporting the entire *Tongue River I* line

¹¹ See former 49 U.S.C. § 10901(a) (1988).

Because the Board is reviewing this application as though it were an application submitted in a new proceeding, the current public convenience and necessity standard applies. However, as shown below, TRRC's proposal to construct and operate the Colstrip Alignment meets the public convenience and necessity standard under the prior standard as well, because the current or future public convenience and necessity "requires or permits" TRRC's construction proposal.

TRRC's purpose in submitting this Supplemental Application is to receive Board authority to construct and operate the Colstrip Alignment, a rail line between Colstrip, MT and Terminus Points 1 & 2. The TRRC rail line is the only viable transportation option for a vast coal source that a subsidiary of Ark is currently developing in the Otter Creek area. As explained above, Ark, a subsidiary of Arch, has leased Otter Creek coal tracts from the State of Montana and GNP. Otter Creek Coal, LLC, an affiliate of Ark, has already obtained a prospecting permit from the MDEQ and filed a mine permit application with the MDEQ to construct and operate a mine in the Otter Creek area. *See Rowlands VS at 2.* The State of Montana has determined, through its lease of the Otter Creek tracts to Ark that its citizens will benefit from the mining of this coal.¹²

A study prepared by the University of Montana's Bureau of Business & Economic Research titled "The Impact of Otter Creek Coal Development on the Montana Economy" (hereafter "Montana Study") found that the development of Otter Creek coal, including the construction and operation of the railroad, would substantially benefit the Montana economy.¹³ The Study, which was based on the Miles City alignment of the TRRC line, found that "with the

¹² The State Land Board's leasing decision has been affirmed by the Montana Supreme Court, which held that the Board was not required to undertake an environmental review under Montana law in connection with the leasing decision. *Northern Plains Resource Council v Montana Bd. Of Land Comm'rs*, 288 P3d 169 (Mont. 2012)

¹³ This Study is attached as Appendix D

Otter Creek coal development the state economy would be significantly larger, more prosperous, and more populous than would otherwise be the case " *Montana Study* at 4. For example, it concluded that such development would result in the creation of more than 2,600 jobs during construction of the mine and railroad, and more than 1,700 new permanent jobs during operations of the mine *Id* The jobs will result from direct employment by the mine and railroad, and would also be created in the retail, health care, construction, government and health care sectors, among others.

The Montana Study also concluded that the development would increase Montana personal income by more than \$100 million during construction of the mine and railroad, and by more than \$125 million per year during mine operations *Id* In addition, the study found that the development would generate substantial tax revenues for the state of Montana. *Id*

The Board should also take into account that coal production is expected to grow in the United States during the years that the TRRC line would be operational According to the U.S. Energy Information Administration's Annual Energy Outlook 2012 at page 98, U.S. coal production will grow at an annual rate of 1% after 2015 through 2035 based on the Reference Case. "with coal use for electricity generation increasing as electricity demand grows and natural gas prices rise."¹⁴ The same report forecasts that Western coal production will also continue to grow, as will demand, albeit at a slower rate of growth than in the past. *Id* Coal use is predicted to increase for use in the production of synthetic liquids and for export *Id*

There is also demand for coal overseas. To the extent some portion of the Otter Creek coal may find markets overseas (*see* Rowlands VS at 4) through U.S. ports along the Atlantic, Pacific, Great Lakes or Gulf Coasts, the export of that coal does not diminish the need for the

¹⁴ [http://www.eia.gov/forecasts/aeo/pdf/0383\(2012\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2012).pdf)

TRRC line. It goes without saying that large volumes of rail traffic today consist of goods transported to ports for export. Moreover, the Obama Administration's National Export Initiative to grow the nation's exports underscores that export traffic is consistent with the national interest. *See* Executive Order 13534 (March 11, 2010) at <http://www.whitehouse.gov/the-press-office/executive-order-national-export-initiative> (citing increasing exports as a "critical component" to the nation's job growth and economic health)

Given the explicit need for transportation of coal from the Otter Creek area and the fact that the TRRC rail line is the only viable means by which to transport such coal to market, it clearly would serve the public convenience and necessity to authorize the construction and operation of the TRRC rail line. This is not a rail line that is being proposed for construction based on speculation or with only a thin public interest need. The fact that BNSF and Arch have invested in the TRRC rail line and are prepared to expend substantial resources to build it underscores the need for the rail line. Indeed, the market is the best governor of the demand for a new rail line and here market forces are coalescing behind a determination that the coal resource at Otter Creek should be developed and transported. Where industry players are prepared to dedicate resources to a significant mine and the railroad needed to transport the mine's product to market, the STB has no grounds for finding that construction and operation are inconsistent with the public convenience and necessity.

Moreover, the TRRC proposal to construct and operate the Colstrip Alignment meets not only the current standard for approval of new construction, but the pre-ICCTA standard, which required that "present or future public convenience and necessity require or permit" the proposed rail construction and operation. Applying that standard in 1986, the ICC determined that the construction and operation of the then proposed Miles City rail line was consistent with the

public convenience and necessity. Specifically, in approving that rail line, the ICC stated "[w]e adopt the reasoning and conclusions of the initial decision finding that the construction, operation, and financing of the subject line by TRRC meet appropriate public interest standards in 49 U.S.C. 10901 and 11301. The evidence of record shows a need for rail transportation to serve coal mines in the Tongue River valley. This is a provident and necessary expenditure that will give shippers new rail service to their benefit and to the benefit of the public as well " 1986 Decision at 10.

TRRC's current Colstrip Alignment proposal serves public convenience and necessity even better than the rail line approved in 1986. The need for the rail line is more apparent now because a mine that will be served by the railroad is in the process of being developed in the Otter Creek area. In 1986 when the ICC approved the Miles City route, no mine permit application had been filed for any mine that would be served by the TRRC rail line. The Colstrip Alignment also serves the public interest better than the rail line approved in 1986 because it will have fewer environmental impacts than the approved rail line as described below. Most notably, the Colstrip Alignment will be approximately 46 miles shorter than the route previously approved by the ICC with attendant environmental, economic and operating advantages. The Colstrip Alignment also avoids the Miles City Fish Hatchery and the United States Department of Agriculture's LARRS facility. Given that previous TRRC rail line approved in this proceeding met the then-governing public convenience and necessity standard, the proposed Colstrip Alternative clearly meets that standard as well. A discussion of some of the key factors that favor approval of the proposed line follows

A. Environmental Factors

In the Draft and Final EIS's prepared in the TRRC I proceeding, the ICC's Section of Energy and Environment, predecessor to the STB's Office of Environmental Analysis, found that

among the routes studied, both the originally preferred route proposed by TRRC (the Miles City-Ashland/Otter Creek Route through the Tongue River valley) and the Colstrip Alignment were the two feasible routing options from among those studied. See 1986 Decision at 6 ("The FEIS concluded that the route proposed by TRRC and the Colstrip Alternate were feasible choices.").

In fact, in most resource categories used for comparing the various alignments under review, the Colstrip Alignment was determined to have fewer environmental impacts. See Table 4-14 of 1983 Draft EIS in the TRRC I proceeding, entitled "Summary Impact Table" attached hereto in Exhibit H, Executive Summary of the 1985 Final EIS in the TRRC I proceeding and Section 4.15 of that Final EIS, entitled "Summary Comparison of Proposed Action and Alternatives," all attached hereto in Exhibit H. While TRRC recognizes that a new EIS is in process in this proceeding and that the Colstrip Alignment and other alternatives will once again be reviewed and compared, certain inherent advantages of the Colstrip Alignment are likely to demonstrate that that Alignment will have fewer adverse environmental impacts than the other alternative routes, specifically, the fewer number of miles of new track construction overall and the fewer number of miles in the Tongue River valley as compared to other routes.

A key environmental advantage to the Colstrip Alignment stems from the fact that significantly fewer miles of new rail line would need to be constructed. This is so because the Colstrip Alignment takes advantage of the already-existing BNSF Colstrip Subdivision, a single track line that links BNSF's Forsyth Subdivision with an area southeast of the city of Colstrip. See map at Exhibit C. The existing BNSF Colstrip Subdivision, apart from an occasional local train, is not used for regular train service today and thus the operation on that Subdivision of trains using the TRRC Colstrip Alignment will not result in any train conflicts or otherwise overburden the line. Bobb VS at 3. The Colstrip Subdivision was used for train service at the

time the Colstrip alternative was assessed in the Draft and Final EISs prepared by the ICC in the 1980's.

In terms of new construction, the Colstrip Alignment is 46 miles shorter required than the Miles City route approved in 1986 and 41 miles shorter than the Modified Miles City alignment. It is also shorter than other routes previously considered for the TRRC line in the TRRC I proceeding, namely, the Moon Creek and Tongue River Road alignments. In large measure as a result of the fewer miles of new track that would need to be constructed, the Colstrip Alignment would impact (according to the prior EISs in this proceeding) fewer landowners, fewer acres, fewer private road crossings, fewer streams, and fewer cultural resources sites. *See* Exhibit H. The prior studies also show that it would have fewer impacts to vegetation and wildlife and impact less agricultural property, among other advantages. *Id*

Further, to a greater extent than other alternatives under review, including the Modified Miles City Alignment, the Colstrip Alignment follows existing transportation corridors. Specifically, the Alignment would follow Cowcreek Road and Greenleaf Road, prior to traversing parallel to Tongue River Road and (for Terminus Point 2) Otter Creek Road. *See* map at Exhibit C. The advantages of the Alignment found in the prior EISs are likely to be enhanced by the current Colstrip Alignment proposal which would route the Alignment along Greenleaf Road for the entire distance between Rosebud Creek and the Tongue River Road, an increased distance along existing transportation corridors of about 5 miles compared to the Colstrip Alternative route studied in previous EISs. By following the existing corridor of the road, as opposed to creating a new corridor for this approximate distance as proposed in the version of the Colstrip Alignment previously considered in the Tongue River I EISs, there are likely to be even fewer disruptions to agricultural and ranching operations in the area. *See* Bobb VS at 3-4

Further, the modifications proposed to the portion of the Colstrip Alignment that was previously approved by the ICC in 1986 (the portion south of the Greenleaf Road area) may result in some environmental benefits, including fewer impacts to the river valley as a result of locating the line further west of the Tongue River. *See Bobb VS at 7.*

The Colstrip Alignment not only has the advantages of requiring less new track construction and of following existing corridors, it also has the environmental advantage over other routings considered previously of reducing the number of railroad miles traversing the Tongue River valley. Heading south from its northern terminus at the existing BNSF Colstrip Subdivision south of the city of Colstrip, the Alignment would enter the Tongue River valley near the point where Greenleaf Road intersects with Tongue River Road, and traverse the valley for a distance of only 17 miles to Terminus Point 1. *See Bobb VS at 6.* In contrast, the Miles City route approved in 1986 traversed the Tongue River valley for 81 miles. Thus, potential impacts to the valley and to the Tongue River, including water quality, very likely would be reduced, as found in the prior TRRC I EISs. *See Exhibit H, Bobb VS at 6-7.*

The Colstrip Alignment also has the significant advantage of not impacting the State of Montana's Miles City Fish Hatchery or the U.S. Department of Agriculture's LARRS station. *See map at Exhibit C, Bobb VS at 7.* Impacts to these two facilities have generated controversy in this proceeding, and, thus, a routing that avoids them entirely is advantageous. Another advantage is that the Colstrip Alignment would not require any crossing of I-94 (*see map at Exhibit C*), as would be required under the Miles City route. *See Bobb VS at 7.*

B. Economic and Operating Factors

Construction of the Colstrip Alignment is estimated to cost \$416 million in 2013 dollars, a substantial economic savings compared to the approximately \$625 million estimated

construction cost in 2012 dollars for the Modified Miles City Alignment¹⁵ The Colstrip Alignment is also less costly to construct than other alignments under consideration, the cost of each of which would exceed \$700 million.

Operations over the Colstrip Alignment will not require a different number of locomotives than would be the case for any of the other alternatives. See Bobb VS at 7. Further, the alignment will be designed to efficiently handle unit trains of coal. See Bobb VS at 7. The Colstrip Alignment would require longer operations against ruling grade (about 12 miles) as opposed to other alternatives, including the Modified Miles City Alignment. See Bobb VS at 7. However, the overall shorter distance of the combined Colstrip Alignment/existing BNSF Colstrip Subdivision routing between Otter Creek and the BNSF Forsyth Subdivision will offset to some extent the longer distance of such against-grade operations. See Bobb VS at 7. Moreover, Colstrip Alignment is operationally feasible for unit trains of coal and its characteristics are not markedly different from those of other lines operated by BNSF that haul coal unit trains. See Bobb VS at 7-8.

For Otter Creek/Ashland coal traffic heading westbound, the Colstrip Alignment's general northwest/southeast orientation offers a reduction in the total mileage from origin to ultimate destination for the coal, eliminating 50 miles (100 miles round-trip) that the traffic would otherwise have to travel on the existing BNSF Forsyth Subdivision if that traffic entered that Subdivision at or near Miles City as it would under the other alignments being considered. See Bobb VS at 8. While eastbound coal traffic would ultimately travel about 38 miles (76 miles round trip) farther under the Colstrip Alignment as opposed to the other routes under

¹⁵ The cost of the Modified Miles City Alignment has been adjusted upwards based on further engineering studies undertaken since TRRC filed its October 16 Application, which reported a lower estimated construction cost figure.

consideration (*see* Bobb VS at 8), the inability to predict how much coal traffic will head east versus west makes it impossible to accurately measure the implications of the Colstrip Alignment versus the other routes on this basis. Nonetheless, it merits noting that to the extent the Colstrip Alignment was not chosen by the ICC in the TRRC I proceeding in the 1980s on the basis that eastbound coal traffic would travel a longer distance to its ultimate destination, it was assumed at that time that all or virtually all of the coal traffic would move eastbound. That presumption is no longer valid – the coal market has evolved so that future coal traffic could move in either direction once it reaches the existing BNSF Forsyth Subdivision. *See* Rowlands VS at 4

Finally, the proposed modifications to the portion of the Colstrip Alignment in the Tongue River valley and along the Otter Creek spur, *i.e.*, the portion of the line south of Greenleaf Road that was previously approved by the ICC, are designed to straighten the line and thereby improve the efficiency of the planned transportation of unit coal trains along the line. *See* Bobb VS at 8. This will result in fuel usage, operational cost and maintenance cost benefits relative to the somewhat curvier line previously approved. *See* Bobb VS at 8.

- (d) **As exhibit C, a map which clearly delineates the area to be served including origins, termini and stations, and cities, counties and States. The map should also delineate principal highways, rail routes and any possible interchange points with other railroads. If alternative routes are proposed for construction, the map should clearly indicate each route.**

Exhibit C, attached hereto, contains a map of the proposed rail line from Colstrip to the two Terminus Points, Terminus Points 1 & 2. Exhibit C also includes aerial views and a schematic diagram of the southern portion of the proposed rail line show the location of the proposed refinements to the rail line relative to the routing approved in 1986.

- (e) A list of the counties and cities to be served under the proposal, and whether there is other rail service available to them. The names of the railroads with which the line would connect, and the proposed connecting points; the volume of traffic estimated to be interchanged; and a description of the principal terms of agreements with carriers covering operation, interchange of traffic, division of rates, or trackage rights.

The TRRC rail line, as proposed in this application, would serve the following counties and communities:

Counties¹⁶

- Rosebud County
- Powder River County

Communities¹⁷

- Colstrip
- Ashland

The community of Colstrip and Rosebud County benefit from rail service by means of a BNSF branch line to Colstrip. The community of Ashland and Powder River County currently do not have rail service.

The TRRC rail line would connect to the existing BNSF Colstrip Subdivision just south of Colstrip, MT. Based on projected mine production, TRRC could interchange an average of seven trains per day with BNSF in the initial full year of operations. TRRC and BNSF have not yet reached a specific agreement regarding BNSF's operation of the TRRC rail line.

- (f) The time schedule for consummation or completion of the proposal.

Construction of the TRRC approved rail line from Colstrip to Ashland/Otter Creek should take approximately 20 months over three years, assuming a construction season of eight months per year. TRRC anticipates that the rail line could be constructed and ready for

¹⁶ Custer County would be served were one of the other alignments under environmental review to be constructed.

¹⁷ Miles City would be served were one of the other alignments under environmental review to be constructed.

transportation by the time that coal will begin to be produced from the Otter Creek mine, which is subject to the completion of permitting and a myriad of other factors including, without limitation, market conditions and general business considerations.

(g) If a new line is proposed for construction:

- (1) The approximate area to be served by the line.**
- (2) The nature or type of existing and prospective industries (e.g., agriculture, manufacturing, mining, warehousing, forestry) in the area, with general information about the age, size, growth potential and projected rail use of these industries.**
- (3) Whether the construction will cross another rail line and the name of the railroad(s) owning the line(s) to be crossed. If the crossing will be accomplished with the permission of the railroad(s), include supporting agreements. If a Board determination under 49 U.S.C. 10901 (d) (l) will be sought, include such requests.**

(1) The TRRC rail line would serve an area within Rosebud and Powder River Counties in Montana. Although the TRRC would be a common carrier railroad for all commodities, the greatest potential use of rail service is for the movement of coal. The TRRC rail line will serve the Otter Creek coal area leased by Ark which contains an approximately 1.5 billion ton coal reserve of low sulfur, sub-bituminous coal.¹⁸ In addition, TRRC has the potential to transport additional coal from the considerable coal resources that are located between Colstrip and the two Terminus Points and will serve any mines developed in that area. See Bobb VS at 5. However, at present, there are no known mine projects other than the Otter Creek mine in that area.

(2) At present, the area to be traversed by the TRRC rail line is used primarily for livestock grazing and to raise dry-land crops, such as wheat, barley, and oats. Some of the

¹⁸ See Rowlands VS at 2.

land is irrigated, which permits the production of alfalfa and hay. It is not known at this time whether other businesses or agricultural interests will utilize rail transportation

The new mine expected to be developed by Otter Creek Coal will be served by the TRRC. Output from Otter Creek Coal's planned mine is predicted to be 20 million tons annually when the mine is at full production. See Rowlands VS at 3. It is not known at this time whether other industries will locate in the area served by the TRRC line, but TRRC will hold itself out as a common carrier to transport for any shipper upon reasonable request.

(3) The rail line will not cross another rail line

OPERATIONAL DATA (SECTION 1150.5)

As exhibit D, an operating plan, including traffic projection studies; a schedule of the operations; information about the crews to be used and where employees will be obtained; the rolling stock requirements and where it will be obtained; information about the operating experience and record of the proposed operator unless it is an operating railroad; any significant change in patterns of service; any associated discontinuance or abandonments; and expected operating economics.

Exhibit D, attached hereto, contains an Operating Plan that sets out in general terms the expected operating plan if BNSF operates the TRRC rail line. As previously noted, the operations over the TRRC line are expected to be conducted solely by BNSF, under an agreement with TRRC. No agreement with respect to BNSF operations has yet been reached. Nevertheless, BNSF's general plans for operations over the TRRC line, in the event of such an agreement, are set forth in the Operating Plan.

No associated discontinuances or abandonments are expected in connection with the construction of the approved TRRC rail line from Colstrip to Ashland/Otter Creek, MT

FINANCIAL INFORMATION (SECTION 1150.6)

- (a) **The manner in which applicant proposes to finance construction or acquisition, the kind and amount of securities to be issued, the approximate terms of their sale and total fixed charges, the extent to which funds for financing are now available, and whether any of the securities issued will be underwritten by industries to be served by the proposed line. Explain how the fixed charges will be met.**

Construction of the Tongue River Railroad will most likely be financed pursuant to one of the following options.

1. 100% equity contributions from some or all of the members of its sole shareholder, TRR Holding
2. Guarantee by the some or all of the members of its sole shareholder. TRR Holding, of long-term debt privately placed by TRRC.
3. Combination of either 1 or 2 above.

- (b) **As exhibit E, a recent balance sheet. As exhibit F, an income statement for the latest available calendar year prior to filing the application.**

Attached hereto are Exhibit E, a recent balance sheet for TRRC as of December 31, 2011 and for BNSF, the expected operator, as of December 31, 2011, and Exhibit F, an income statement for TRRC as of December 31, 2011 and for BNSF, the expected operator, as of December 31, 2011, the latest available calendar year prior to filing the Supplemental Application.

- (c) **A present value determination of the full costs of the proposal. If construction is proposed, the costs for each year of such construction (in a short narrative or by chart).**

The present value cost of constructing the TRRC rail line is approximately \$416 million. A chart breaking out the projected construction costs by year is presented in Appendix B.

- (d) A statement of projected net income for 2 years, based upon traffic projections. Where construction is contemplated, the statement should represent the 2 years following completion of construction.

See attached Exhibit G, which shows that the TRRC line will be profitable based on projected payments from the operator, BNSF.

ENVIRONMENTAL AND ENERGY DATA (Section 1150.7)

As exhibit II, information and data prepared under 49 C.F.R. Part 1105, and the "Revision of the Nat'l Guidelines Environmental Policy Act of 1969," 363 I.C.C. 653 (1980), and in accordance with "Implementation of the Energy Policy and Conservation Act of 1975," 49 CFR Part 1105.

ICF International has been retained as the third party contractor pursuant to 49 C.F.R. § 1105.10(d) to work with the OEA staff in preparing an EIS relative to TRRC's construction and operation proposal. As noted above, the scoping process relative to that EIS is currently underway. In addition, certain materials that bear on the Colstrip Alignment drawn from the ICC's prior EISs in the TRRC I proceeding are included in Exhibit H to this Application.

ADDITIONAL SUPPORT (SECTION 1150.8)

Any additional facts or reasons to show that the public convenience and necessity require or permit approval of this application. The Board may require additional information to be filed where appropriate.

The purpose of this Supplemental Application is to obtain authorization to construct and operate a rail line between Colstrip, MT and Terminus Points 1 and 2, south of Ashland, MT. Compared to the rail line approved in 1986, the proposed TRRC rail line will create a route that permits more efficient, economical operations while resulting in less environmental impact. This would be a win-win situation in any circumstance. The Board has indicated that it "intends to expedite this case to the extent possible" in its decision reopening this docket and requiring TRRC to file a Supplemental Application. See June 18 Decision at 11.

Letters of support for this Supplemental Application from the Montana Coal Council, Western Environmental Trade Association, and Montana Chamber of Commerce are included in Appendix C. Other supporting comments from various entities and persons have been submitted to date in response to the Board's scoping notice. *See*, for example, EI-19027 (Statement of Support from Billings Chamber of Commerce) and EI-19097 (Statement of Support from Two Rivers Authority). It is noteworthy that Rose Hanser, the mayor Colstrip, has submitted a comment in the current scoping phase of the EIS process in support of the Colstrip Alignment. *See* EI-19129.

NOTICE (Section 1150.9)

A summary of the proposal which will be used to provide notice under § 1150.10 (f).

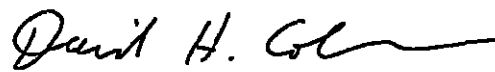
Pursuant to 49 C.F.R. § 1150.9, attached hereto as Exhibit 1 is a summary of the proposal in this Supplemental Application that was used to provide notice under § 1150.10(f). The summary was published in November 2012 in a newspaper of general circulation in each county in which the line will be located pursuant to the Board's instruction in its November 1 Decision.

CONCLUSION

For the reasons stated herein, TRRC respectfully requests that the Board grant it authority to construct a common carrier rail line between Colstrip, MT and Terminus Points 1 & 2

south of Ashland, MT as specified in this Supplemental Application and that BNSF be authorized to serve as the operator over that line.

Respectfully submitted,



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Attorneys for Applicant
Tongue River Railroad Company, Inc

Dated: December 17, 2012

CERTIFICATE OF SERVICE

I hereby certify that a copy of Tongue River Railroad Company, Inc.'s Supplemental Application for Construction and Operation Authority was been served this 17th day of December, 2012 via first-class U.S. mail, postage prepaid, upon all parties of record to this proceeding.



Keith Decker

EXHIBIT A

**WRITTEN CONSENT TO ACTION
BY THE BOARD OF DIRECTORS
OF
TONGUE RIVER RAILROAD COMPANY, INC.**

DATED AS OF DECEMBER 4, 2012

The undersigned, being all of the directors of

TONGUE RIVER RAILROAD COMPANY, INC.,

a Delaware corporation (the "*Corporation*"), hereby waive all notice of the time, place or purpose of a meeting, consent by electronic transmission to adoption of the following resolutions as being the action of the board of directors of the Corporation (the "*Board of Directors*") pursuant to the applicable provisions of the General Corporation Law of the State of Delaware, as amended, do hereby consent that the following resolutions be, and they hereby are, adopted as of the date first written above; are and shall be of the same force and effect as if they were adopted at a duly held meeting of the Board of Directors, and direct that this Written Consent to Action be filed with the minutes of the proceedings of the Board of Directors:

WHEREAS, the Corporation was incorporated in the State of Delaware on September 4, 1998;

WHEREAS, the Certificate of Incorporation of the Corporation (the "*Certificate of Incorporation*") provides, among other things, that the purpose of the Corporation is, among others, "to project, design, plan, conduct engineering studies of, arrange financing for and obtain all applicable federal, state and local permits and authorizations for the construction and operation, of, to secure rights of way for, and to construct, equip and operate railroads";

WHEREAS, the Tongue River Railroad was previously authorized by the Interstate Commerce Commission ("*ICC*") in a final decision issued in 1986 in the so-called TRRC I proceeding (Finance Docket No. 30186), wherein the ICC found that the construction and operation of the Tongue River Railroad was consistent with the public convenience and necessity;

WHEREAS, the Corporation is preparing for filing with the Surface Transportation Board ("*STB*") a Supplemental Application in the TRRC I proceeding to seek approval to construct the Tongue River Railroad line between two terminus points at its southern end (Terminus Point #1

near Ashland, MT and Terminus Point #2, at the planned Otter Creek mine) and an existing BNSF rail line at its northern end;

WHEREAS, the Corporation intends also to seek from other governmental agencies all permits required to construct the Tongue River Railroad;

WHEREAS, the Corporation does not intend to construct any rail line south of Terminus Points #1 and #2 (located south of Ashland, MT) that was the subject of its applications to the STB in the so-called TRRC II and TRRC III proceedings, which proceedings have now been terminated; and

WHEREAS, the Board of Directors wishes to ratify and confirm the Corporation's authority to obtain all federal, state and local permits required for the design, construction and operation of the Tongue River Railroad, as provided by its Certificate of Incorporation.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors hereby ratifies and confirms the Corporation's authority to obtain all federal, state and local permits required for the design, construction and operation of the Tongue River Railroad, as provided by its Certificate of Incorporation;

RESOLVED FURTHER, that the Board of Directors hereby ratifies, confirms and adopts the actions of the officers of the Corporation taken prior to the date hereof in connection with the pursuit of, and authorizes the officers of the Corporation to continue to pursue, the federal, state and local permits required for the design, construction and operation of the Tongue River Railroad,

RESOLVED FURTHER, that the Board of Directors hereby authorizes the officers of the Corporation to (a) sign, execute, certify to, verify, acknowledge, deliver, accept, file and record any and all instruments and documents and (b) take, or cause to be taken, any and all actions in the name and on behalf of the Corporation or otherwise, as in such officer's judgment shall be necessary or appropriate to effect the purposes of the foregoing resolutions;

RESOLVED FURTHER, that any and all actions heretofore taken or caused to be taken by, and any and all certificates, agreements, documents and other instruments heretofore executed, acknowledged or delivered by, any officer or officers of the Corporation, in the name and on behalf of the Corporation, in connection with or related to any of the matters authorized or contemplated by the foregoing resolutions, be and each hereby is, ratified, confirmed, adopted, approved and authorized; and

RESOLVED FURTHER, that this Written Consent to Action may be executed in one or more and on separate counterparts, and all of such counterparts will be considered one and the same document.

IN WITNESS WHEREOF, the undersigned, being all of the directors of the Corporation,
have affixed their signatures hereunto as of the date first written above, in acknowledgment of
their consent to the adoption of the resolutions hereinabove set forth

BOARD OF DIRECTORS



Steven B. Bobb, Director

Ken Cochran, Director

IN WITNESS WHEREOF, the undersigned, being all of the directors of the Corporation, have affixed their signatures hereto as of the date first written above, in acknowledgment of their consent to the adoption of the resolutions hereinabove set forth.

BOARD OF DIRECTORS

Stevan B. Bobb, Director


Ken Cochran, Director

EXHIBIT B

EXHIBIT 1

CERTIFICATE OF INCORPORATION
OF
TONGUE RIVER RAILROAD COMPANY, INC.

To form a corporation pursuant to the Delaware General Corporation Law, the undersigned hereby certifies as follows:

ARTICLE 1.

The name of this corporation is Tongue River Railroad Company, Inc.

ARTICLE 2.

The purpose of this corporation is to engage in any lawful act or activity for which corporations may be organized under the Delaware General Corporation Law, including, without limitation, to project, design, plan, conduct engineering studies of, arrange financing for and obtain all applicable federal, state and local permits and authorizations for the construction and operation of, to secure rights-of-way for, and to construct, equip and operate railroads.

ARTICLE 3.

The corporation shall have perpetual duration.

ARTICLE 4.

The registered office of this corporation in Delaware is 1209 Orange Street, Wilmington, New Castle County, Delaware 19801, and the name of its registered agent is The Corporation Trust Company.

ARTICLE 5.

The total number of shares of stock which this corporation is authorized to issue is 50,000 shares of nonassessable common stock with a par value of \$1.00 per share

ARTICLE 6.

In furtherance, and not in limitation of the powers conferred by statute, the board of directors is expressly authorized to make, amend, alter, change, add to or repeal bylaws of this corporation, without any action on the part of the stockholders. The bylaws made by the directors may be amended, altered, changed, added to or repealed by the stockholders. Any specific provision in the bylaws regarding amendment thereof shall be controlling.

ARTICLE 7.

A director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director; provided, however, that this article shall not eliminate or limit the liability of a director (a) for any breach of the director's duty of loyalty to the corporation or its stockholders, (b) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law; (c) for the unlawful payment of dividends or unlawful stock repurchases under Section 174 of the Delaware General Corporation Law; or (d) for any transaction from which the director derived an improper personal benefit. This article shall not eliminate or limit the liability of a director for any act or omission occurring prior to the effective date of this article.

If the Delaware General Corporation Law is hereafter amended to authorize any further limitation of the liability of a director, then the liability of a director of the corporation shall be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law, as amended.

Any repeal or modification of the foregoing provisions of this article by the stockholders of the corporation shall not adversely affect any right or protection of a director of the corporation existing at the time of such repeal or modification.

ARTICLE 8.

The initial board of directors shall be comprised of:

<u>Name</u>	<u>Address</u>
Mike T. Gustafson	550 N 31st Street, Suite 250, Billings, MT 59101
Donald C. Muelke	905 Hills Creek Dr., McKinney, TX 75070-5231
James G. Di Zerega	6400 S Fiddler's Green Circle, Englewood, CO 80111
Davin L. Anderson	6400 S Fiddler's Green Circle, Englewood, CO 80111

ARTICLE 9.

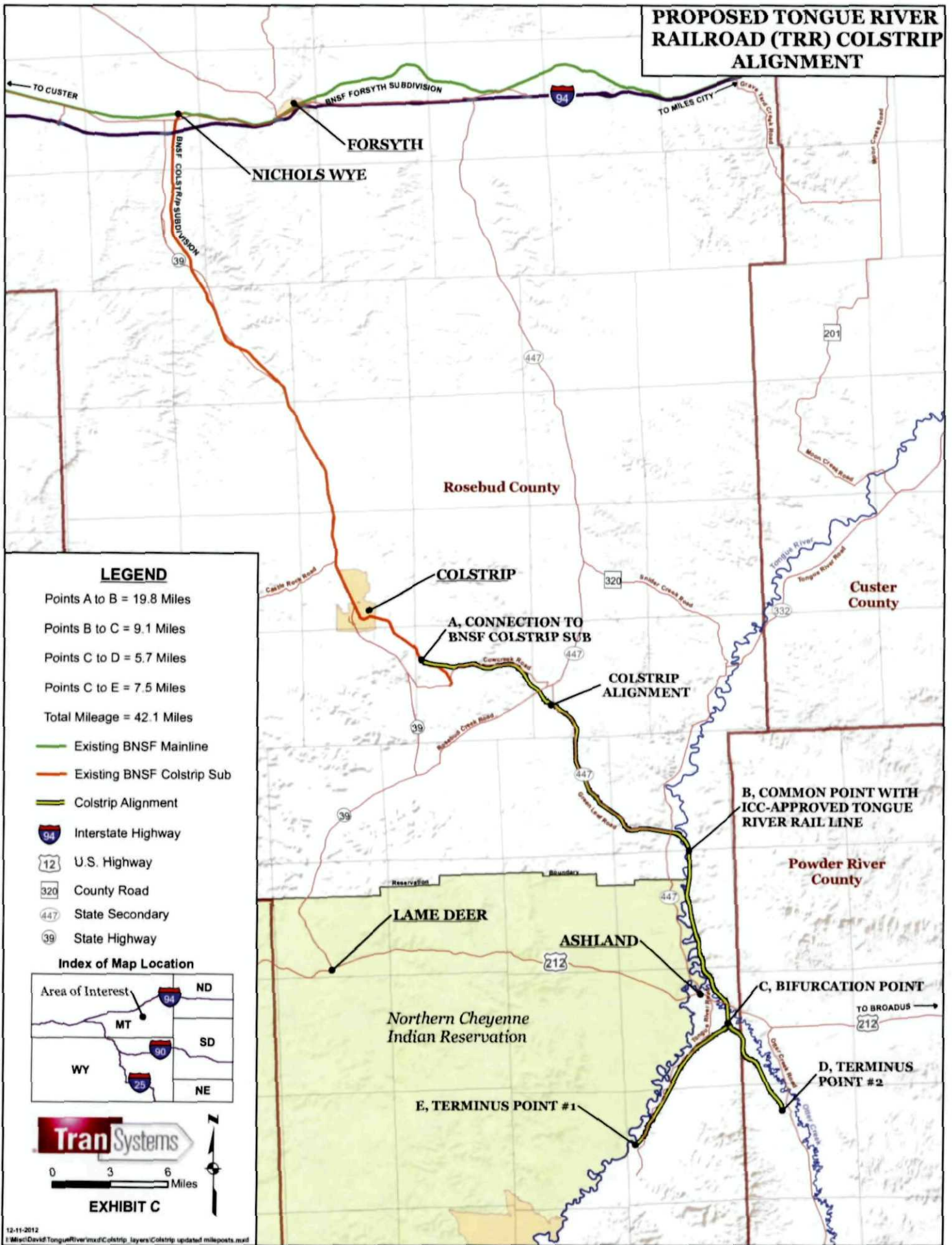
The name and mailing address of the incorporator is: L. W. Petersen, 1200 First Interstate Center, 401 North 31st Street, Billings, Montana 59101.

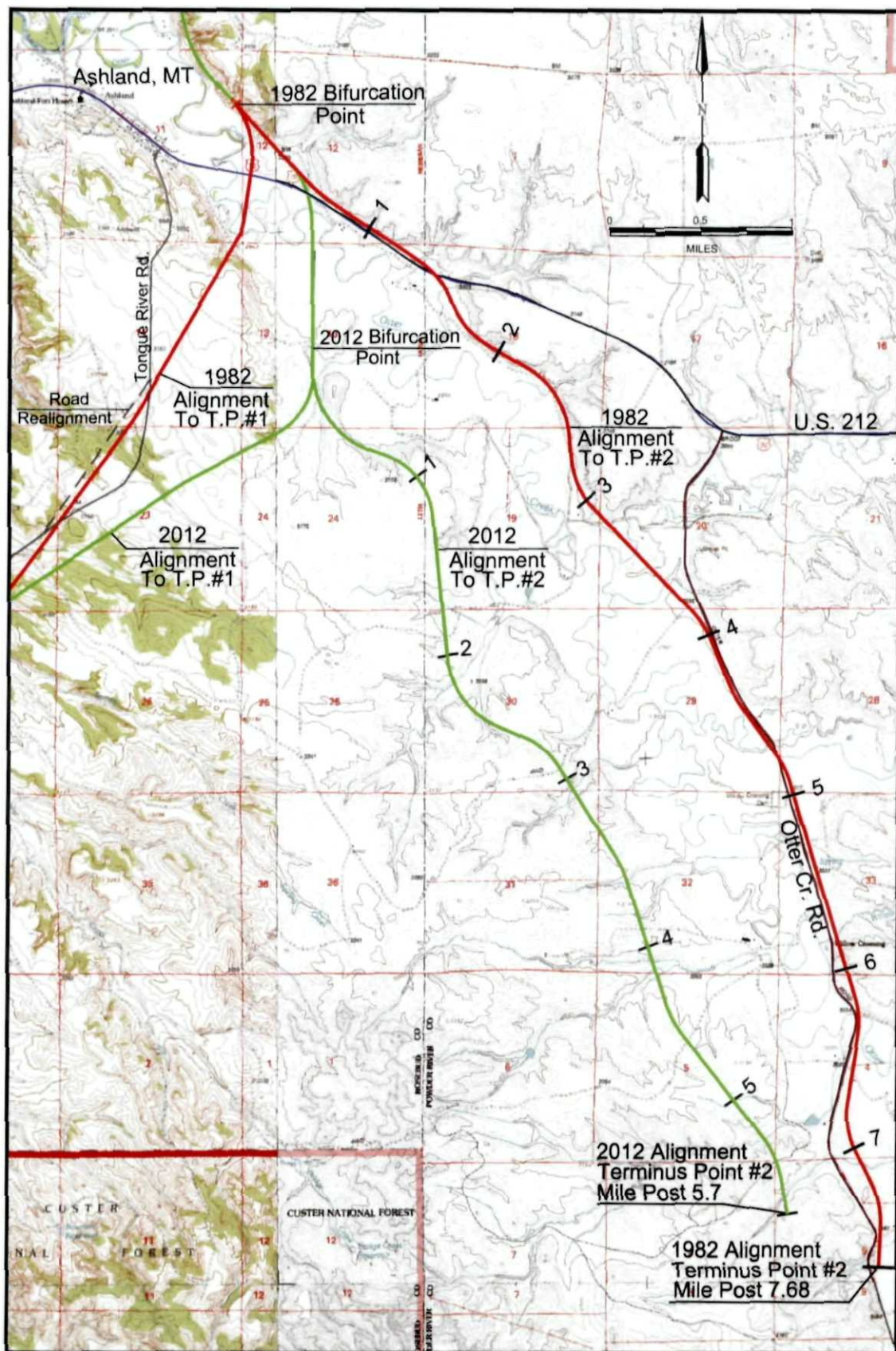
Dated: September 4, 1998

L. W. Petersen
L. W. Petersen, Incorporator

EXHIBIT C

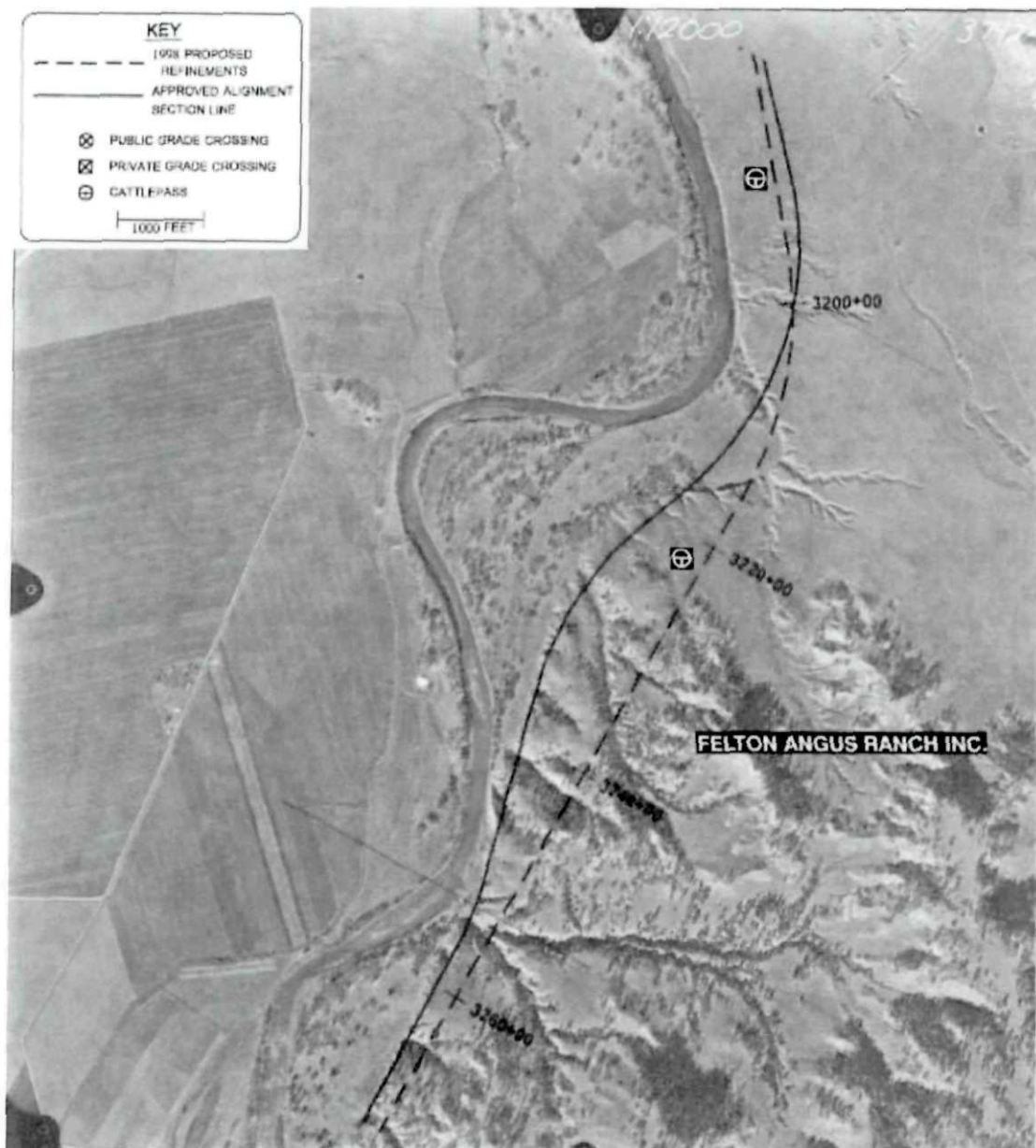
PROPOSED TONGUE RIVER RAILROAD (TRR) COLSTRIP ALIGNMENT





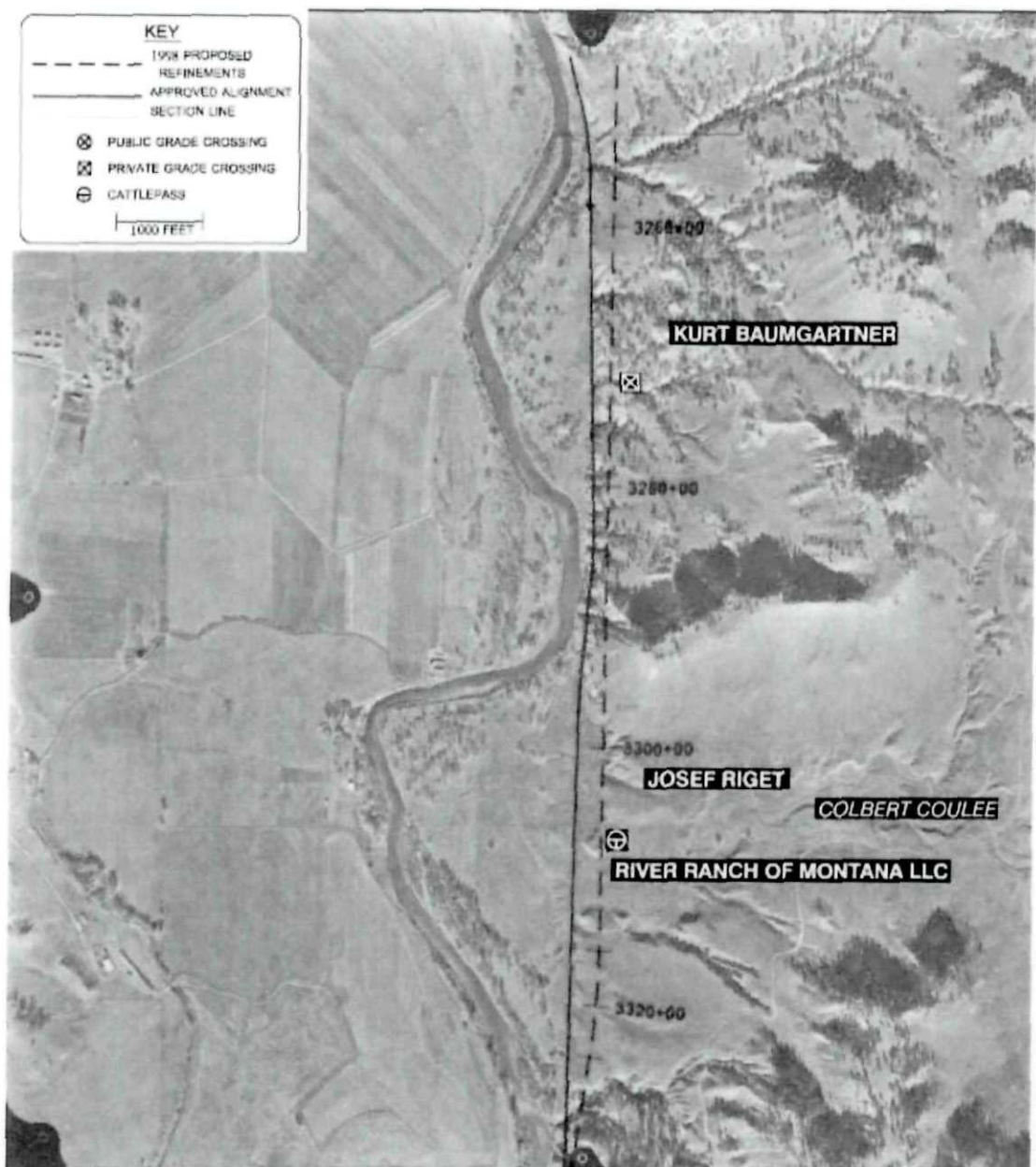
**TONGUE RIVER R.R.
TERMINUS PT. #2 SEGMENTS 1982 vs. 2012**

Excerpts of aerial photos from TRRC III Final EIS Appendix A
showing refinements to southern portion of Colstrip alignment



Cattlepass and Private Grade locations are approximated based upon discussions with property owners during the early 1980's and the late 1990's. These locations are subject to change based upon final right-of-way negotiations and agreements

Figure A-45
Aerial Photographs of Alignments
Miles City to Ashland

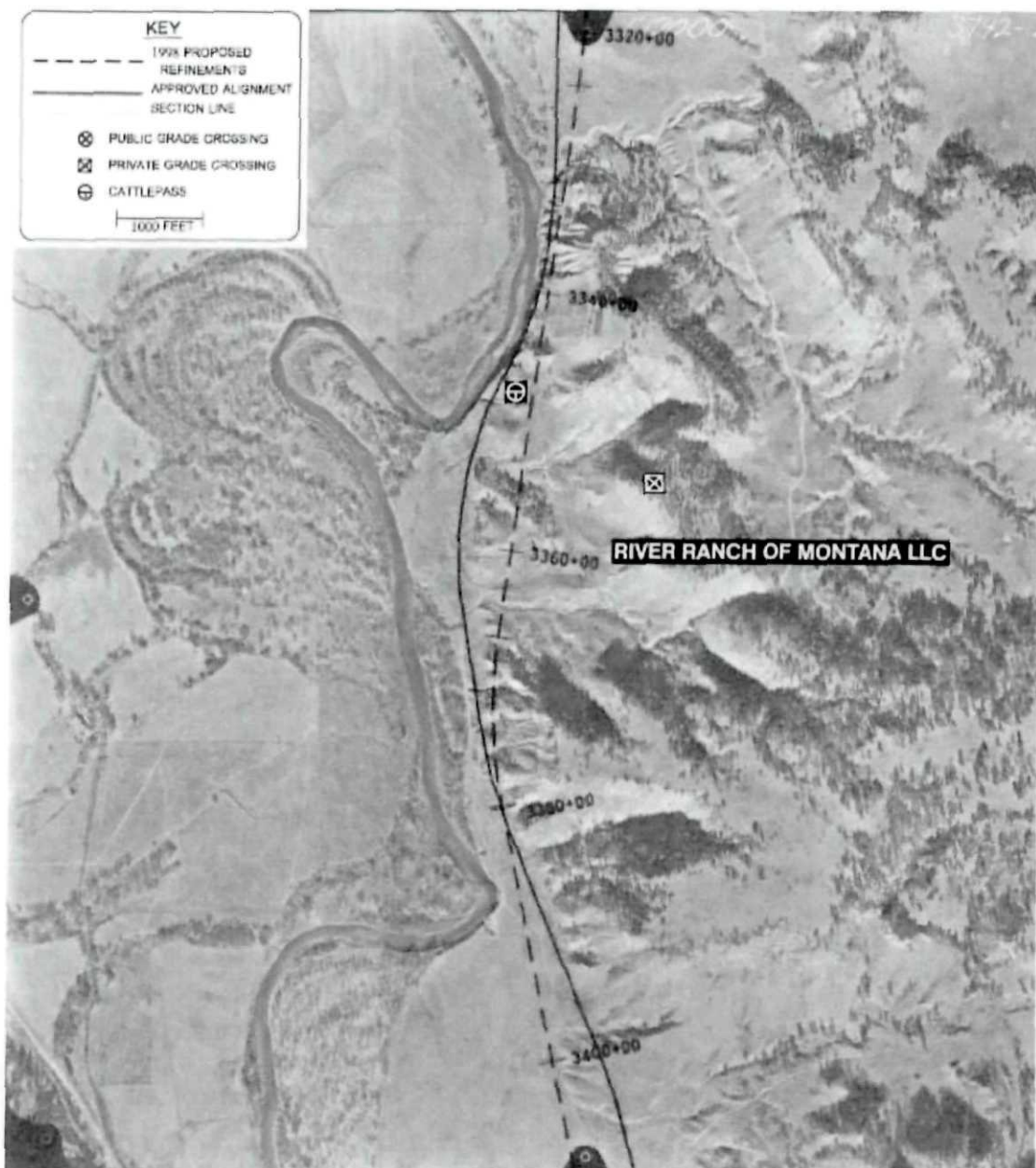


Cattlepass and Private Grade locations are approximated based upon discussions with property owners during the early 1980's and the late 1990's. These locations are subject to change based upon final right-of-way negotiations and agreements

Figure A-46

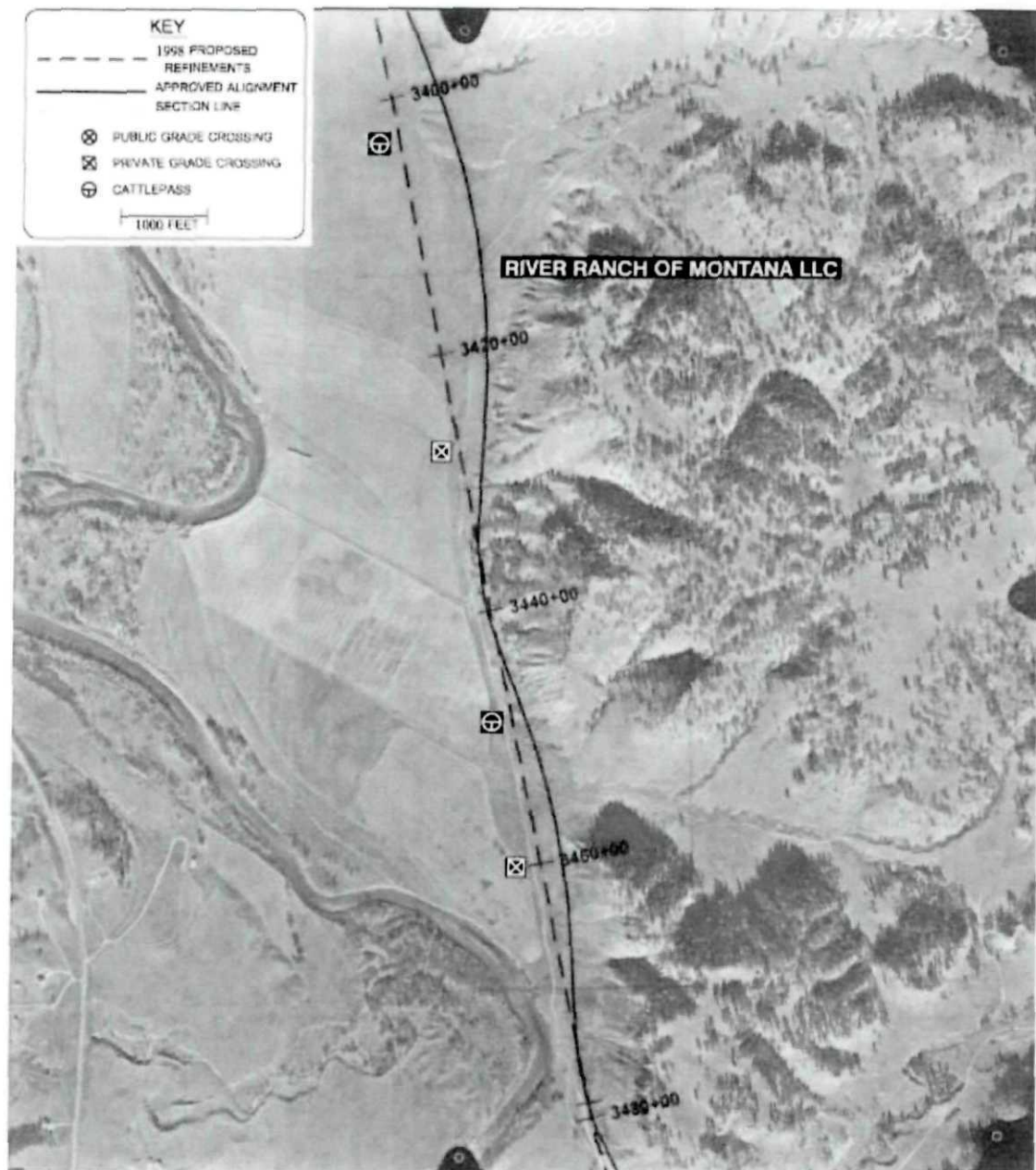
Aerial Photographs of Alignments

Miles City to Ashland



Cattlepass and Private Grade locations are approximated based upon discussions with property owners during the early 1980's and the late 1990's. These locations are subject to change based upon final right-of-way negotiations and agreements

Figure A-47
Aerial Photographs of Alignments
Miles City to Ashland

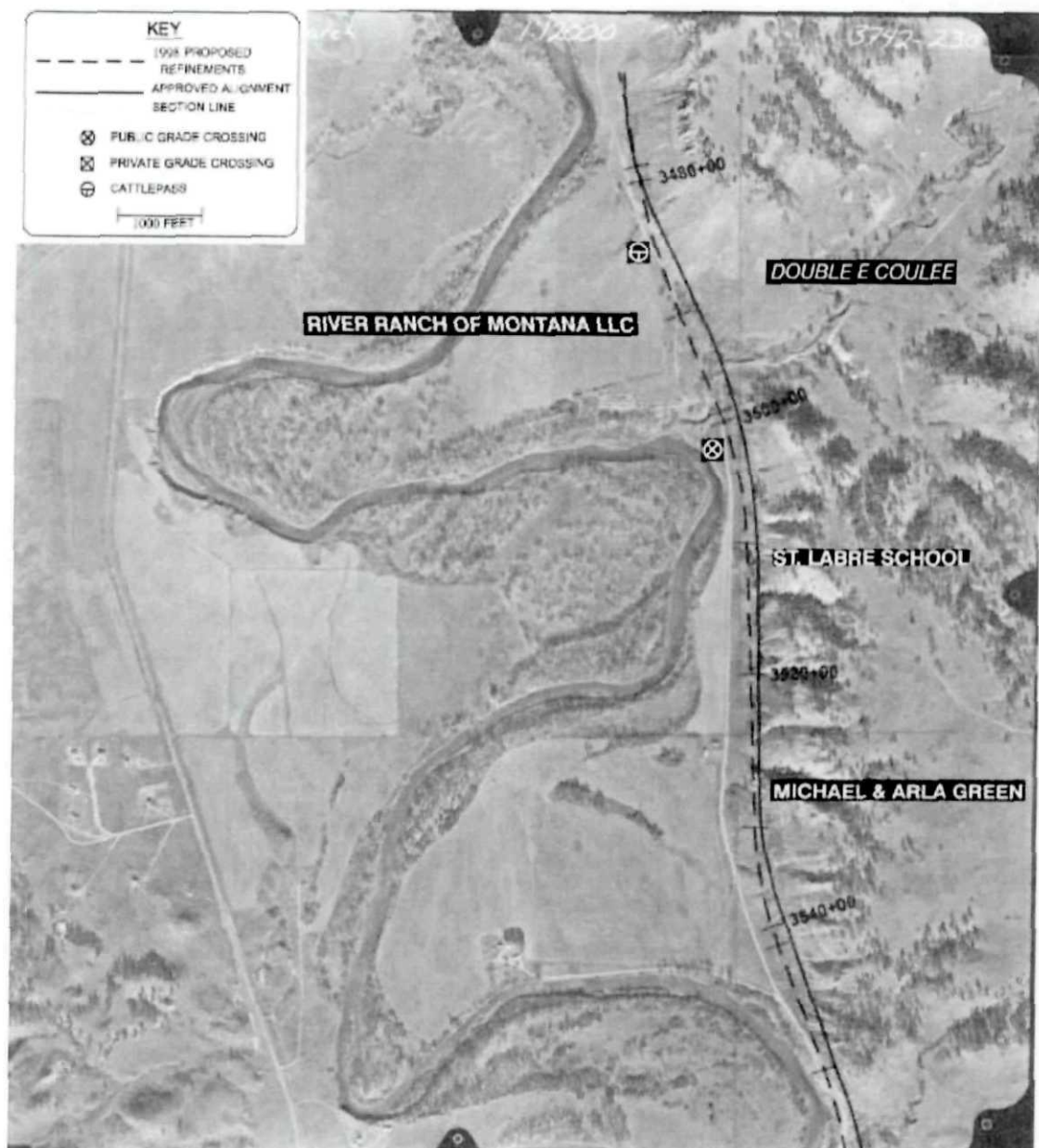


Cattlepass and Private Grade locations are approximated based upon discussions with property owners during the early 1980's and the late 1990's. These locations are subject to change based upon final right-of-way negotiations and agreements

Figure A-48

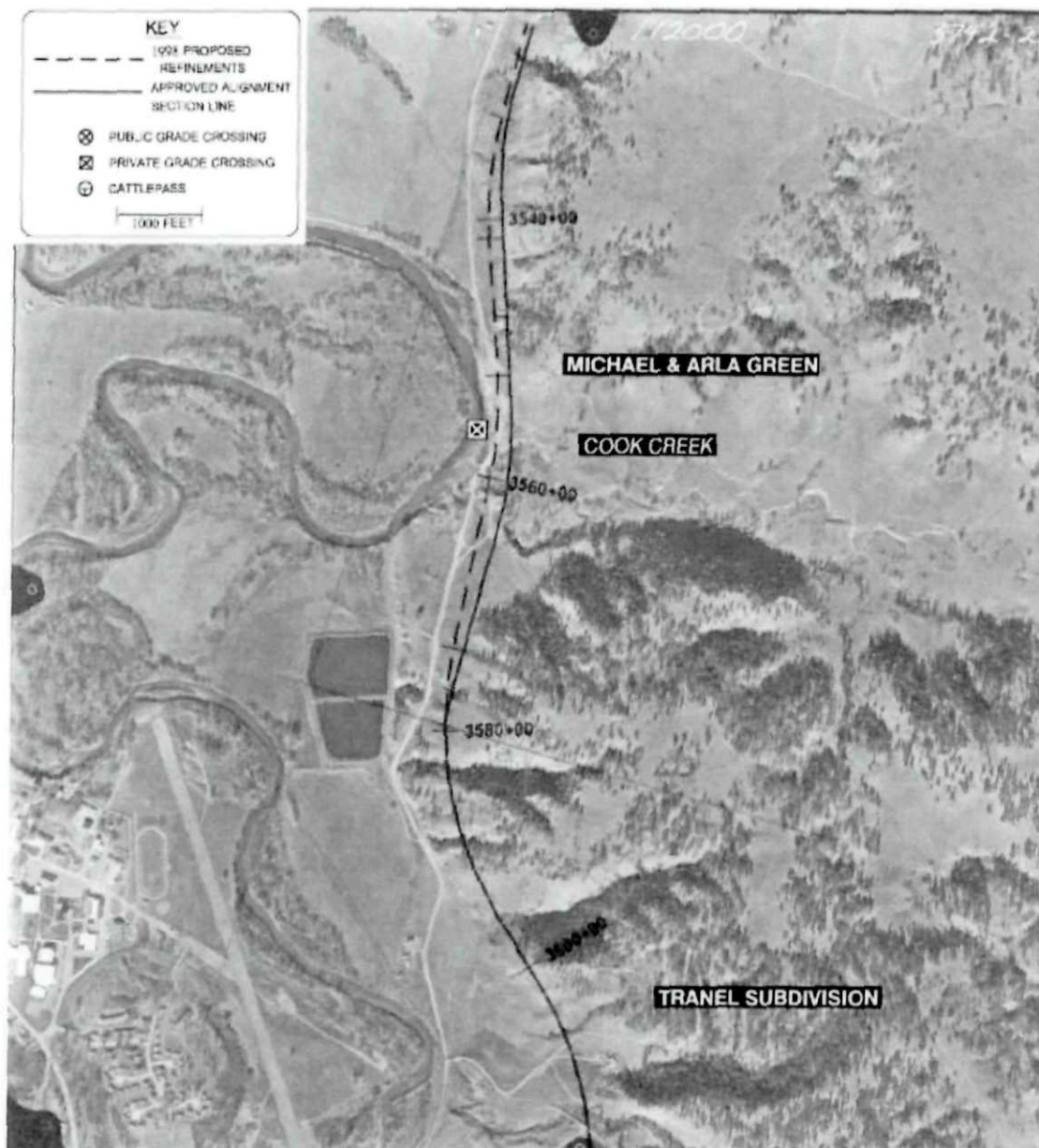
Aerial Photographs of Alignments

Miles City to Ashland



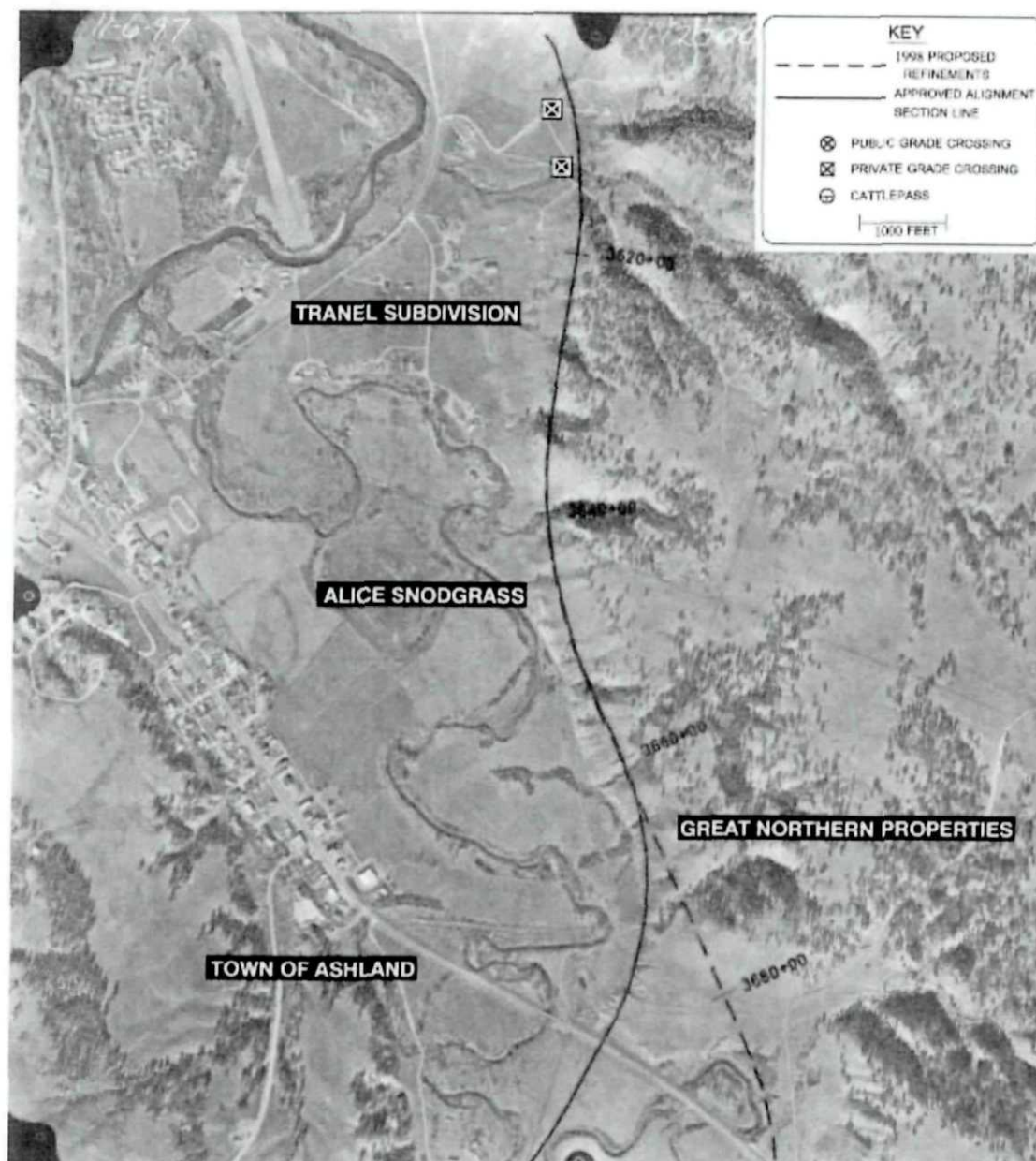
Cattlepass and Private Grade locations are approximated based upon discussions with property owners during the early 1980's and the late 1990's. These locations are subject to change based upon final right-of-way negotiations and agreements

Figure A-49
Aerial Photographs of Alignments
Miles City to Ashland



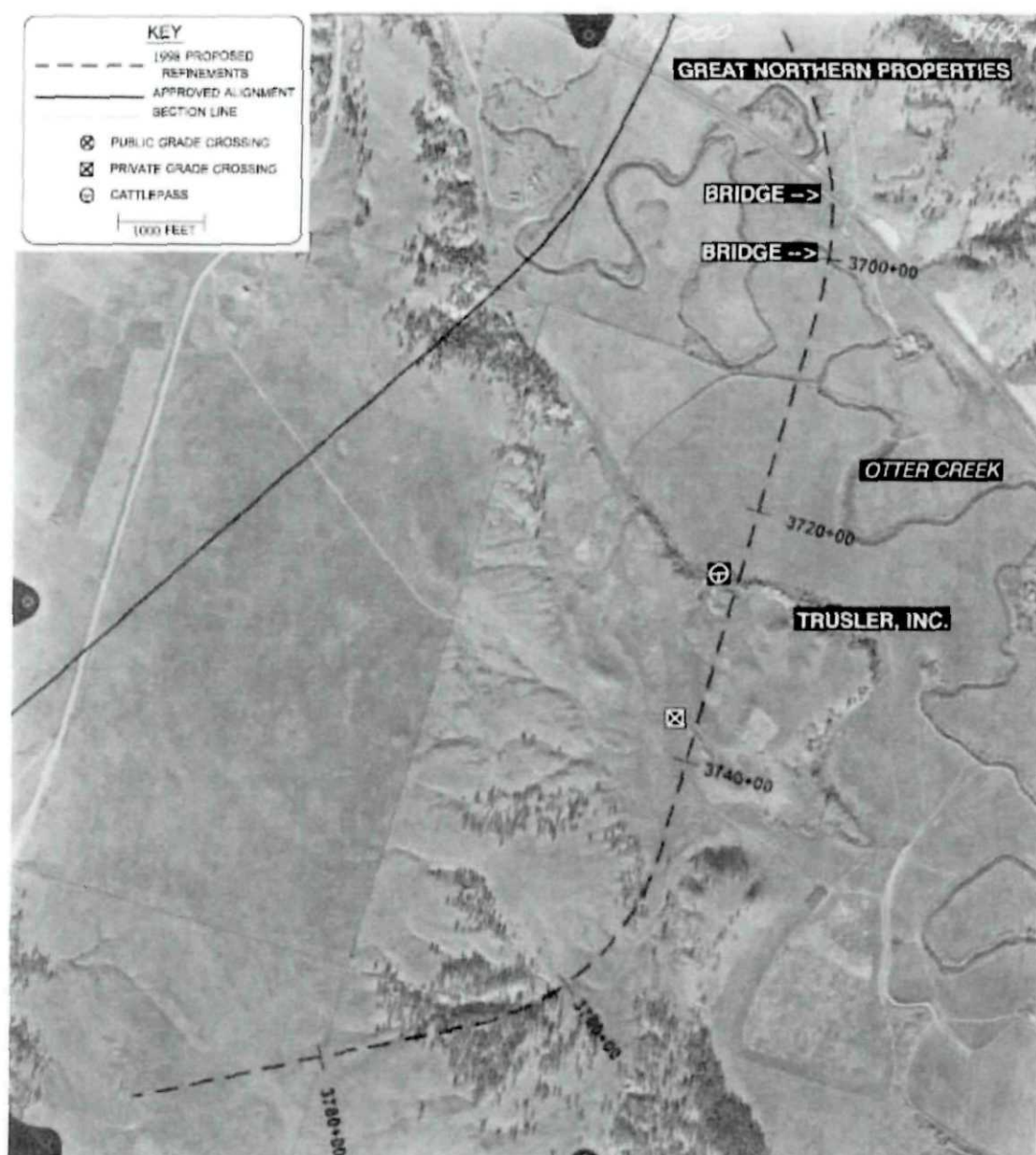
Cattlepass and Private Grade locations are approximated based upon discussions with property owners during the early 1980's and the late 1990's. These locations are subject to change based upon final right-of-way negotiations and agreements

Figure A-50
Aerial Photographs of Alignments
Miles City to Ashland



Cattlepass and Private Grade locations are approximated based upon discussions with property owners during the early 1980's and the late 1990's. These locations are subject to change based upon final right-of-way negotiations and agreements

Figure A-51
Aerial Photographs of Alignments
Miles City to Ashland

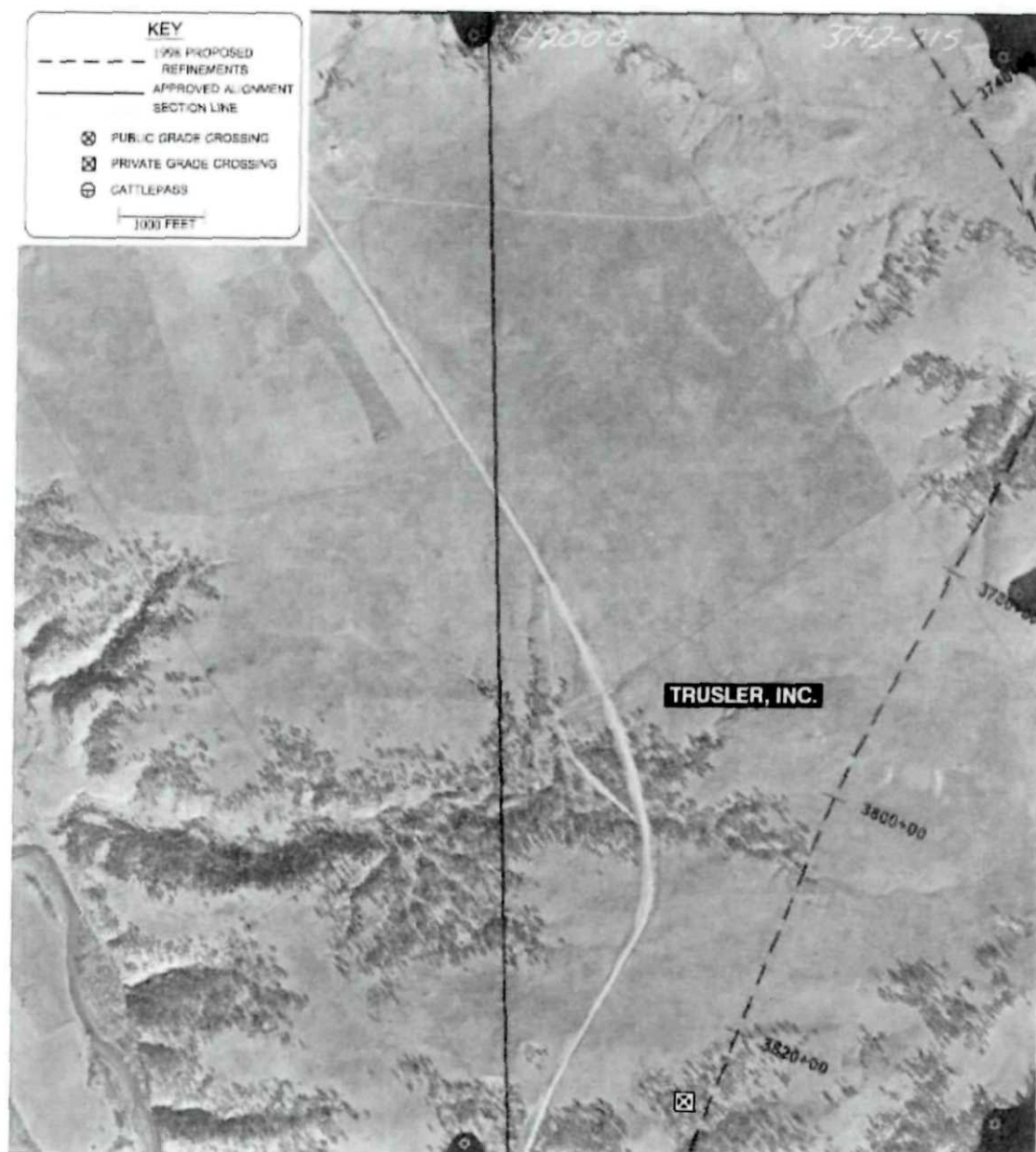


Cattlepass and Private Grade locations are approximated based upon discussions with property owners during the early 1980's and the late 1990's. These locations are subject to change based upon final right-of-way negotiations and agreements

Figure A-52

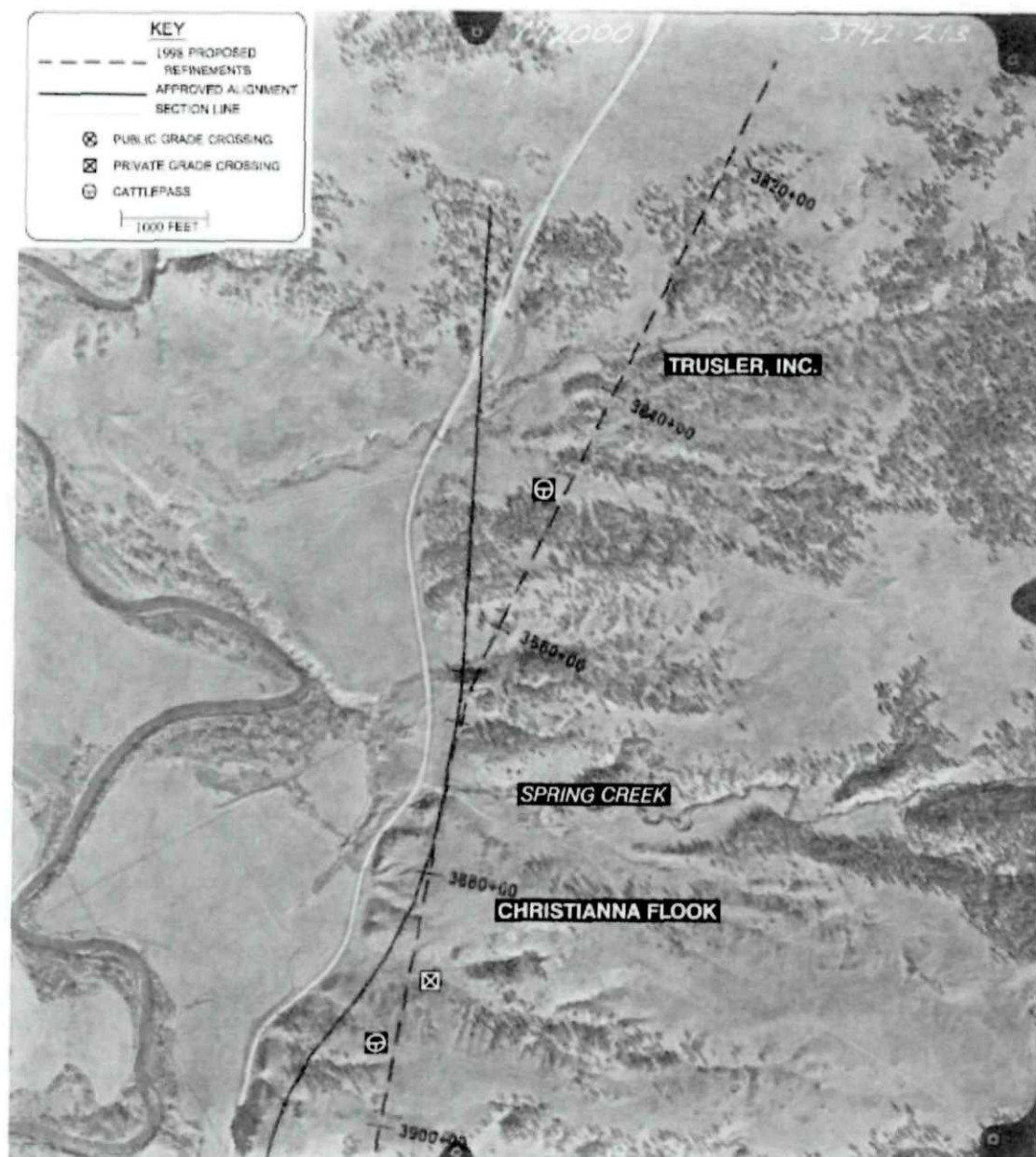
Aerial Photographs of Alignments

Miles City to Ashland



Cattlepass and Private Grade locations are approximated based upon discussions with property owners during the early 1980's and the late 1990's. These locations are subject to change based upon final right-of-way negotiations and agreements

Figure A-53
Aerial Photographs of Alignments
Miles City to Ashland

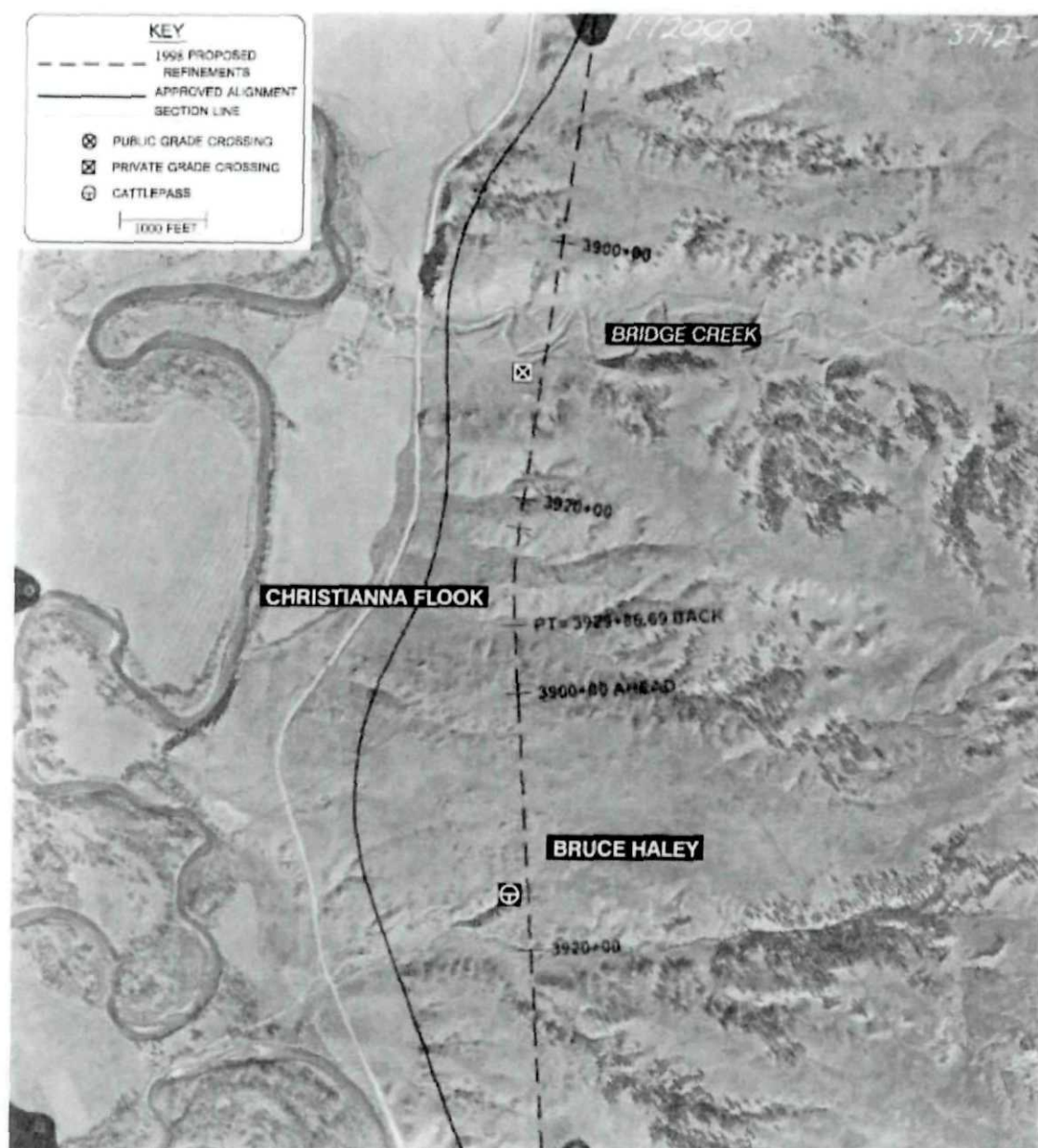


Cattlepass and Private Grade locations are approximated based upon discussions with property owners during the early 1980's and the late 1990's. These locations are subject to change based upon final right-of-way negotiations and agreements

Figure A-54

Aerial Photographs of Alignments

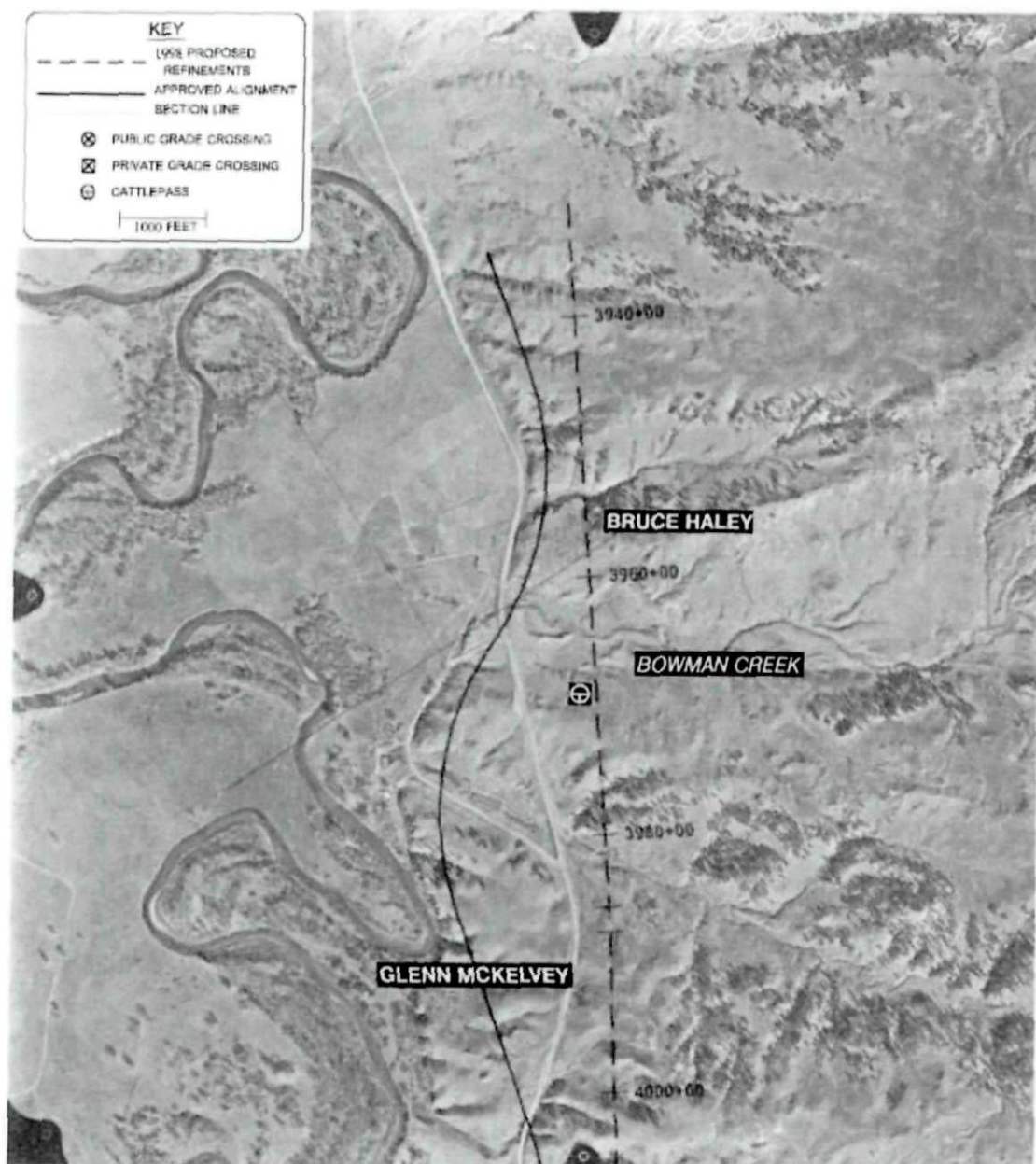
Miles City to Ashland



Cattlepass and Private Grade locations are approximated based upon discussions with property owners during the early 1980's and the late 1990's. These locations are subject to change based upon final right-of-way negotiations and agreements

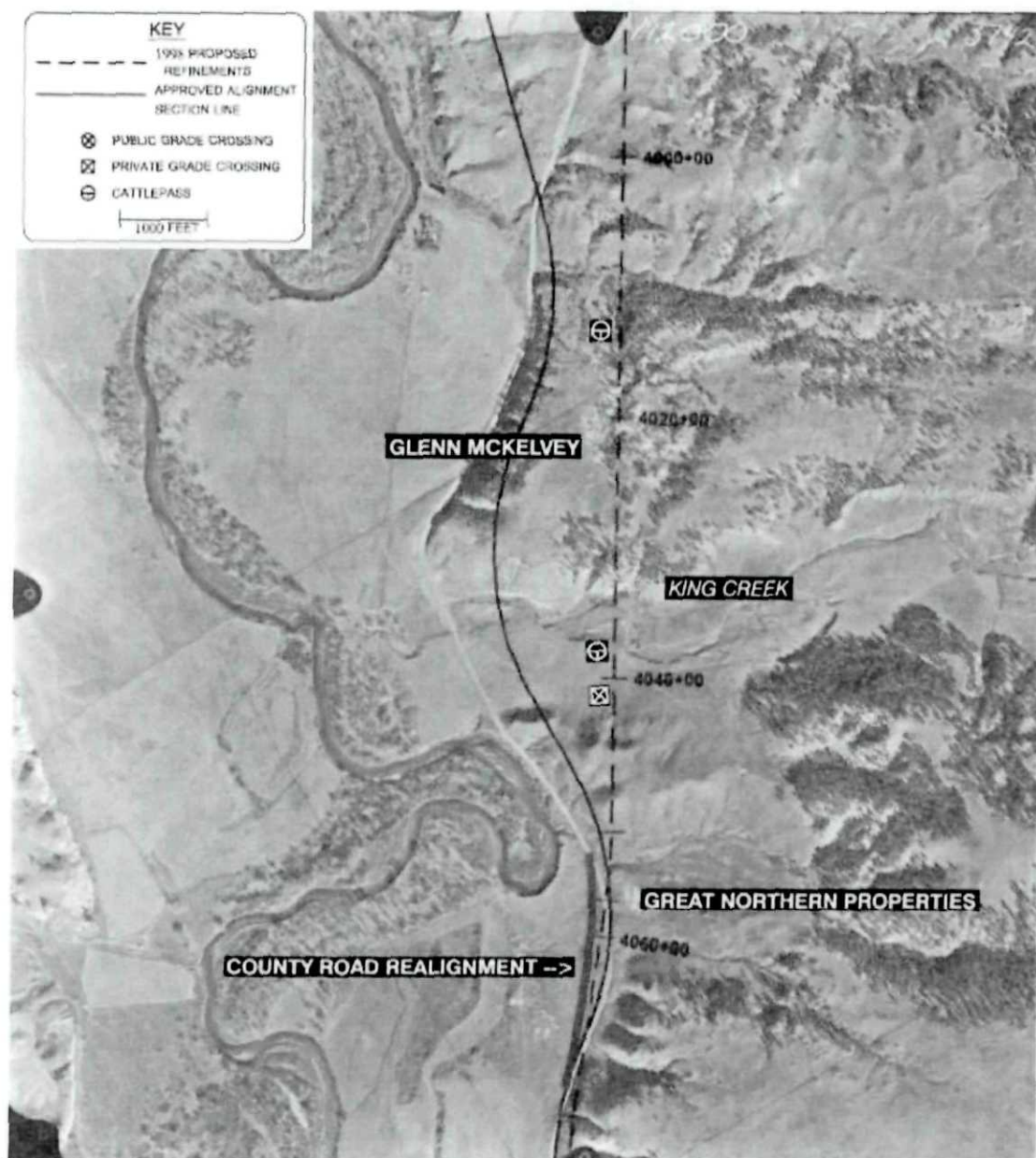
Figure A-55

Aerial Photographs of Alignments
Miles City to Ashland



Cattlepass and Private Grade locations are approximated based upon discussions with property owners during the early 1980's and the late 1990's. These locations are subject to change based upon final right-of-way negotiations and agreements

Figure A-56
Aerial Photographs of Alignments
Miles City to Ashland

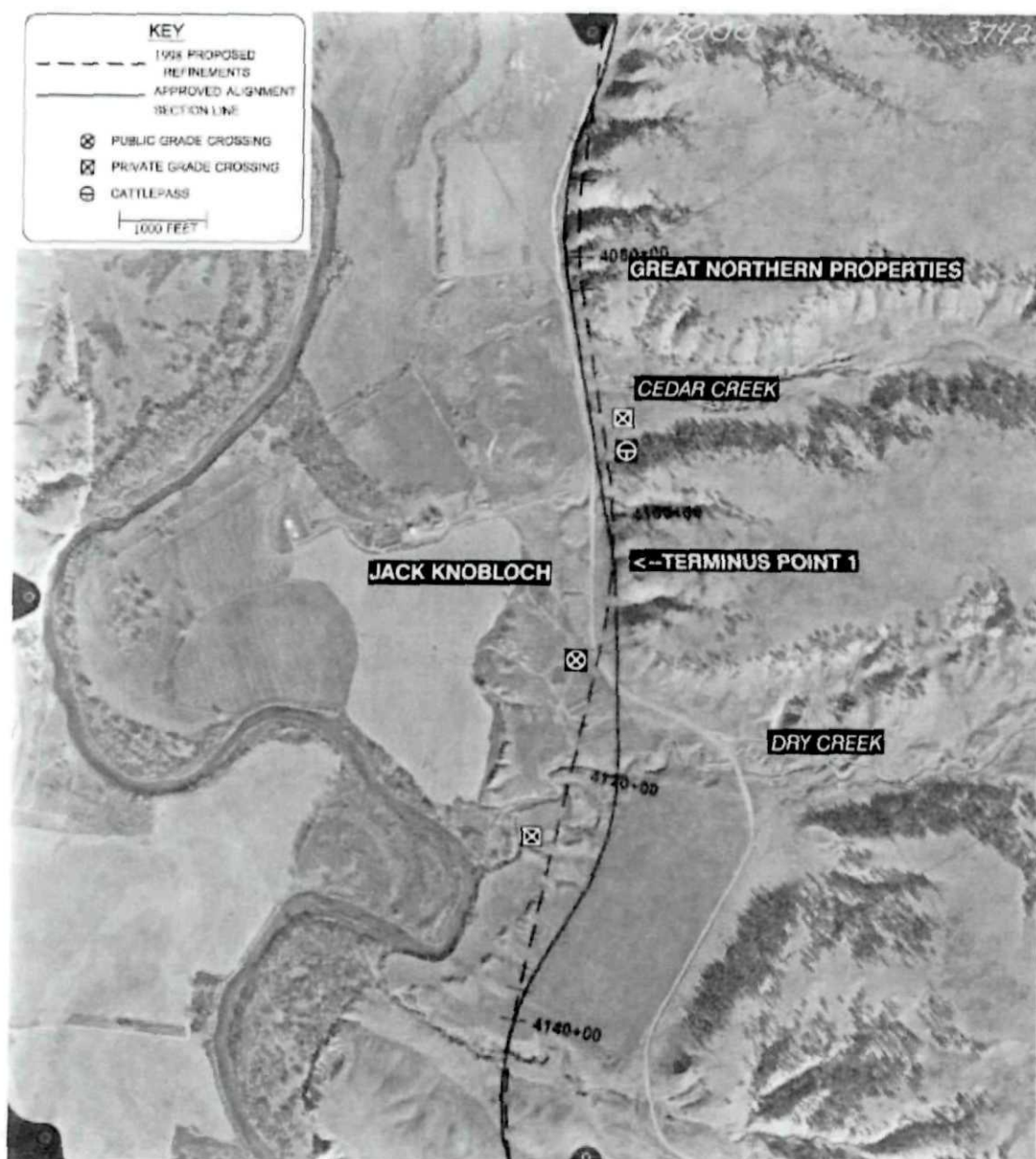


Cattlepass and Private Grade locations are approximated based upon discussions with property owners during the early 1980's and the late 1990's. These locations are subject to change based upon final right-of-way negotiations and agreements

Figure A-57

Aerial Photographs of Alignments

Miles City to Ashland



Cattlepass and Private Grade locations are approximated based upon discussions with property owners during the early 1980's and the late 1990's. These locations are subject to change based upon final right-of-way negotiations and agreements

Figure A-58

Aerial Photographs of Alignments

Miles City to Ashland

EXHIBIT D

**EXHIBIT D –
OPERATING PLAN**

This Exhibit describes the railroad operating plan that the Tongue River Railroad Company (TRRC) plans to implement. BNSF is expected to operate and maintain the rail line subject to a future agreement with TRRC

Line Description

The Tongue River Railroad (TRR) is designed as a single-track railroad running from Colstrip, Montana that splits into two branches just south of Ashland, Montana and has two terminus points – (1) Terminus Point #1 continues southwest and terminates at the previously proposed Montco Mine location and (2) Terminus Point #2 continues southeast from the Ashland area along the main line to the Otter Creek Mine. The line begins just south of Colstrip at approximately BNSF milepost 33. By far the predominant commodity that will be carried by the rail line is subbituminous low sulfur coal from Montana. This coal will be produced from the Otter Creek Mine, a proposed surface mine in the Otter Creek tracts near the Ashland area of southeastern Montana and any other coal mines that are developed in the area.

The Otter Creek Mine, a planned combination dragline/truck shovel surface coal mine owned and operated by Otter Creek Coal, LLC (“Otter Creek Coal”), an indirect, wholly owned subsidiary of Arch Coal, Inc. (“Arch Coal”), is located in Powder River County, Montana, near the southern end of the proposed Tongue River Railroad. The mine is currently projected to produce approximately 20 million tons of coal per year at full production. The mine will transload coal to unit trains via a projected rail spur/coal silo configuration located along the rail loop at the southern end of the TRRC main line at Terminus Point #2.

Although US domestic electric utilities represent the prime demand potential for Otter Creek coal that the TRRC would haul, additional tonnages could be anticipated for export markets. Currently, there are no contracts in place for this coal and prevailing market conditions will determine the eventual destinations.

The Pattern of Service

Unit coal trains on the TRR will move from Colstrip to the coal mine sites and then return to Colstrip. At full Otter Creek Mine capacity of 20 million tons, the TRR would handle 26 round trips per week (3.7 loaded coal trains/day).

Rail and Design Specifications

The main track and sidings will be constructed with continuous welded rail (CWR). Track will be built on 12 inches of compacted granite ballast. Sub-ballast will consist of 12 or more inches of graded rock with a maximum allowable size of 2 inches or six inches of hot-mix asphalt trackbed, depending upon availability of materials at the time of bidding and construction. The railroad will handle BNSF's current gross car weights allowances of 286,000, and is designed to accommodate gross car weights of up to 315,000 pounds.

Initial design specifications for the railroad include the construction of one passing siding with a minimum of 8,500 feet clear length and number 20 turnouts on each end. Plant design will provide for capacity to meet TRRC's needs for a number of years. Capacity can be added in increments through the addition of new passing sidings or extending existing ones. The 8,500 feet clear length is desirable to accommodate the potential of future increases in train size, and also allows for comfortable stopping margins. The number and location of future sidings will be based on minimizing train delays.

In addition to a passing track, additional set-out tracks will be constructed for set-out and

storage of Maintenance-of-Way (MOW) equipment, bad-order cars, etc. Each set-out track will be between 500 and 4,000 feet in length (between clearance points). A minimum length of 500 feet is needed to accommodate permanently-coupled car sets that may operate on this line. Set out tracks will be provided at approximately three locations along the main line.

Equipment and Facilities Needed

The TRRC is proposing to use existing BNSF facilities in Forsyth and acquire facilities in Ashland. Both the Forsyth and Ashland facilities will accommodate, as needed, train crews, space for MOW, Signal, other employees, and offices.

Rolling Stock Requirements and Source

The TRR will be designed to accommodate coal trains of 150 freight cars that will likely be powered by four, six-axle, 4,000 plus horsepower locomotives. The actual train size and locomotive configuration will be determined by destination. The majority of the freight cars on the coal trains will be owned by shippers or by BNSF. The locomotives on the coal trains will be supplied by BNSF.

Signal and Communications

Signal System: As proposed, the TRR will be dispatched and operated under a Track Warrant Control System using identical rules and procedures used by BNSF. Designated meet/pass sidings will be equipped with power switches compliant with FRA regulations.

It is anticipated that BNSF will dispatch the Tongue River Railroad from its dispatching center located in Fort Worth. The signal system and the operating rules and procedures under the Track Warrant Control System will conform to the best railroad industry practices to maximize safety to personnel and equipment. Power will be provided by commercial power with battery and/or generator backup.

Hot journal bearing and dragging equipment detectors will be installed at approximately 25 mile intervals. Reports of bad journals will be conveyed to the locomotive engineer via radio. Set-out tracks for defective cars will be provided.

Communication System. The communication system will consist of two radio frequency channels as assigned by the FCC in an application to be submitted prior to startup of operations. Repeater stations (signal boosters) will be located as appropriate to assure continuous communications with train crews with no signal loss under extremely adverse weather conditions. All other communications will be via commercial or leased telephone lines.

One frequency will be assigned strictly to train operations and track maintenance personnel. Another channel will be assigned for non-operating related uses. Locomotives will have radios capable of communicating on TRRC's assigned frequency. Backup radios will be those installed on trailing locomotive units included in each train consist.

Maintenance-of-Way (MOW)

MOW headquarters will be in Forsyth, with some supporting facilities in Ashland. To safely operate loaded coal trains at 40 MPH, the TRR main line will be maintained to Class 3 standards, as outlined in the Code of Federal Regulations (49 CFR 213). The railroad mainline will be constructed of new materials and initially will require a minimum amount of maintenance. Surfacing is the anticipated exception. Settlement of the newly constructed railroad can be expected because of the type of traffic to be handled (143 gross ton coal cars) and spot surfacing will be required during the first year of operation.

Employees

Since TRRC is expected to enter into an arrangement with BNSF to have BNSF operate the rail line, employees for operations over the TRR rail line will be provided by BNSF. It is

estimated that operations of the TRR by BNSF, utilizing BNSF employees, will require a staff of about 24 people, as shown in the table below. Many of the 24 people responsible for BNSF's operations and maintenance of the TRR rail line may also have responsibilities for operations and maintenance covering additional territory on BNSF.

Expected Operations Staffing

POSITION	NUMBER OF EMPLOYEES
Supervising Trainmaster	1
Train Crew Members	14
Section Gang	3
Track Inspectors	2
Carmen/ Inspectors	2
Signal Technician	1
Communication Technician	1
TOTAL	24

It is expected that MOW employees, employed by BNSF, will consist of a three man section gang and two track inspectors based in Forsyth. Maintenance of Equipment will be staffed with a BNSF wheel truck and crew consisting of two carmen.

Signal maintenance work and communications maintenance work will be handled by BNSF personnel from the appropriate crafts.

Two BNSF track inspectors will be sufficient for the railroad based upon the projected

traffic levels of 20 million tons of coal per year. More BNSF track inspectors will be added if traffic levels warrant.

About seven BNSF train crews (14 operating employees) will be required for projected traffic levels of 20 million tons of coal per year.

Administration of train operations will be consistent with current industry standards. Advance train consists (wheel reports) will be electronically transmitted between BNSF and the mines. Electronic data interchange (EDI) procedures will be established so that only minor manual editing or addition of supplementary data is needed to maintain computer based files of all movements, transactions, and operations of the railroad.

Contingencies

TRRC can rely on the substantial resources of the BNSF and its well-established policies and procedures for addressing the vicissitudes of the railroad business. Emergency procedures will be planned in advance for derailments, heavy snowfalls, major washouts and other reasonably foreseeable contingencies. State police, local fire departments, and other emergency response teams will be provided with maps and knowledge of access points prior to the start-up of the railroad.

Associated Discontinuance or Abandonments

The TRRC construction application does not contemplate any discontinuance of service or abandonments.

EXHIBIT E

TONGUE RIVER RAILROAD COMPANY, INC
(A Development Stage Company)
BALANCE SHEETS
As of December 31, 2011 and 2010

	<u>2011</u>	<u>2010</u>
ASSETS		
<u>Current Assets</u>		
Cash and cash equivalents	\$ 2,875	\$ 9,346
Total current assets	<u>2,875</u>	<u>9,346</u>
Goodwill	25,966,177	-
<u>Property</u>		
Costs incurred to develop railroad	13,144,196	12,802,043
TOTAL ASSETS	\$ <u>39,113,248</u>	\$ <u>12,811,389</u>
LIABILITIES AND STOCKHOLDER'S EQUITY		
<u>Current Liabilities</u>		
Accounts payable and accrued liabilities	\$ 1,000	\$ 233,818
Notes payable	<u>-</u>	<u>1,377,411</u>
Total current liabilities	1,000	1,611,229
Long term debt due after one year	<u>-</u>	<u>2,486,970</u>
Total Liabilities	<u>1,000</u>	<u>4,098,199</u>
<u>Stockholder's Equity</u>		
Common Stock	3,750	3,750
Paid-in capital	39,109,320	12,123,939
Deficit accumulated during the development stage	<u>(822)</u>	<u>(3,414,499)</u>
Total Stockholder's Equity	39,112,248	8,713,190
TOTAL LIABILITIES AND STOCKHOLDER'S EQUITY	\$ <u>39,113,248</u>	\$ <u>12,811,389</u>

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BNSF Railway Company and Subsidiaries

Consolidated Balance Sheets
In millions

	Successor	
	December 31, 2011	December 31, 2010
Assets		
Current assets:		
Cash and cash equivalents	\$ 293	\$ 10
Accounts receivable, net	1,265	1,031
Materials and supplies	739	652
Current portion of deferred income taxes	295	309
Other current assets	190	272
Total current assets	2,782	2,274
Property and equipment, net of accumulated depreciation of \$1,056 and \$659, respectively	48,033	45,473
Goodwill	14,803	14,803
Intangible assets, net	1,420	1,732
Other assets	1,949	2,574
Total assets	\$ 68,987	\$ 66,856
Liabilities and Stockholder's Equity		
Current liabilities:		
Accounts payable and other current liabilities	\$ 3,093	\$ 2,831
Long-term debt due within one year	226	299
Total current liabilities	3,319	3,130
Deferred income taxes	15,847	14,553
Long-term debt	1,845	2,096
Intangible liabilities, net	1,496	1,790
Casualty and environmental liabilities	905	938
Pension and retiree health and welfare liability	769	490
Other liabilities	998	849
Total liabilities	25,179	23,846
Commitments and contingencies (see Notes 5, 12 and 13)		
Stockholder's equity:		
Common stock, \$1 par value, 1,000 shares authorized; issued and outstanding and paid-in-capital	42,920	42,920
Retained earnings	5,655	2,382
Intercompany notes receivable	(4,564)	(2,319)
Accumulated other comprehensive (loss) income	(203)	27
Total stockholder's equity	43,808	43,010
Total liabilities and stockholder's equity	\$ 68,987	\$ 66,856

See accompanying Notes to Consolidated Financial Statements

EXHIBIT F

TONGUE RIVER RAILROAD COMPANY, INC
(A Development Stage Company)
STATEMENTS OF INCOME
For the Years Ended December 31, 2011 and 2010

	<u>2011</u>	<u>2010</u>
INTEREST INCOME	\$ -	\$ 5
EXPENSES		
General and administrative	482	27,789
Operations and management	340	289,414
Interest expense	-	53,233
Total Expenses	<u>822</u>	<u>370,436</u>
 Loss from development stage activities	 <u>\$ (822)</u>	 <u>\$ (370,431)</u>

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BNSF Railway Company and Subsidiaries

Consolidated Statements of Income
in millions

	Successor		Predecessor	
	Year Ended December 31, 2011	February 13 – December 31, 2010	January 1 – February 12, 2010	Year Ended December 31, 2009
Revenues	\$ 19,229	\$ 14,835	\$ 1,768	\$ 13,848
Operating expenses:				
Compensation and benefits	4,288	3,544	439	3,458
Fuel	4,267	2,687	329	2,372
Purchased services	2,009	1,787	211	1,859
Depreciation and amortization	1,807	1,531	192	1,534
Equipment rents	779	670	97	777
Materials and other	808	652	1	640
Total operating expenses	13,958	10,871	1,269	10,640
Operating income	5,271	3,964	499	3,208
Interest expense	73	72	16	124
Interest income, related parties	(32)	(15)	(1)	(3)
Other expense, net	10	8	2	6
Income before income taxes	5,220	3,899	482	3,081
Income tax expense	1,947	1,517	200	1,067
Net income	\$ 3,273	\$ 2,382	\$ 282	\$ 2,014

See accompanying Notes to Consolidated Financial Statements.

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EXHIBIT G

Exhibit G

TRR Projected Income Statement (in 2017 Dollars)
For Two Years Following Completion of Construction

- \$'s in millions

	<u>Year 1</u>	<u>Year 2</u>
Revenue	\$60	\$60
Expenses	\$15	\$15
Operating Income	\$45	\$45
Interest Expense	\$0	\$0
Income Before Taxes	\$45	\$45
Income Taxes	\$15	\$15
Net Income	\$30	\$30

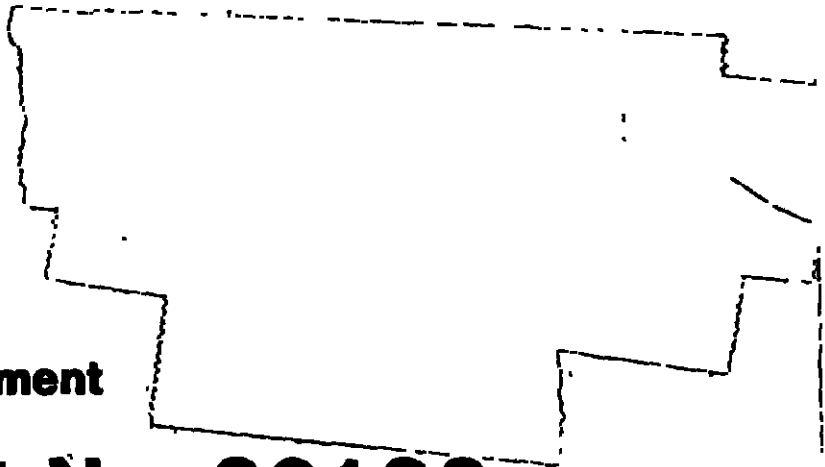
Notes:

- 1) Assumes maintenance and insurance costs are passed through to the operator of the TRRC rail line.
Expenses include depreciation, property taxes and G&A.
- 2) Assumes 2% annual inflation
- 3) Assumes that an entity other than TRRC will operate the TRRC rail facilities.
The \$60 million in annual revenue is an estimate of projected income that TRRC will receive from the operator
- 4) The annual revenue amount is calculated assuming 11.57% return on a \$416 million (in 2013 dollars) Investment
11.57% is the 2011 railroad cost of capital as calculated by the Surface Transportation Board in EP 558 (Sub-No 15) (served September 13, 2012)

EXHIBIT H

Service Date: July 15, 1983

Comment Due Date: October 21, 1983



**Draft
Environmental Impact Statement**

Finance Docket No. 30186

**Tongue River Railroad Company
— Construction and Operation —
of a line of railroad in Custer,
Rosebud, and Powder River Counties, Montana**



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Prepared by:

**Interstate Commerce Commission
Office of Transportation Analysis
Section of Energy and Environment**

TABLE 4-14

SUMMARY IMPACT TABLE

CATEGORY AND PARAMETER (UNITS)	PROPOSED ACTION	YUQUA RIVER ROAD ALTERNATIVE	HOOD CREEK ALTERNATIVE	CHLAYNE ALTERNATIVE	ARLANDS RD ALIGNMENT ^a	"NO ACTION" ALTERNATIVE (Baseline)
4.1 LAND USE						
Total agricultural land in right-of-way (acres)	1,367	1,653	1,717	1,808	(78)	n/a
Total land in other uses in right-of-way (acres)	215	325	188	78	33	n/a
Total agricultural land lost due to severance (acres)	1,062	658	1,100	585	(144)	n/a
Total agricultural land lost due to irrigation impact (acres)	513	-	453	-	-	n/a
Total loss of land use (acres)	1,575	1,558	1,553	1,685	(144)	n/a
Affected landowners: Number with lands in agricultural use	39	42	37	34	3	n/a
Affected landowners: Number with lands in other uses	9	18	4	4	11	n/a
Total number of affected landowners	48	52	41	38	14	n/a
Displaced houses and trailers, existing	3	5	1	1	4	n/a
Displaced corrals/holding areas, existing	3	1	3	5	-	n/a
Displaced wells/water tanks, existing	5	4	4	4	(1)	n/a
Displaced/disrupted irrigation systems, existing	10	4	9	2	-	n/a
Displaced roads, existing	4	2	4	1	-	n/a
Displaced homesites, proposed	1	-	-	-	-	n/a
Displaced irrigation systems, proposed	3	-	3	-	-	n/a
Cumulative loss of production value (all actions) (\$000s)	\$ 3,306	\$ 3,537	\$ 3,346	\$ 3,493	(166)	n/a
4.2 SOCIAL AND ECONOMIC IMPACTS						
Net fiscal balance for construction:						
Custer County (\$000)	\$ 2,825.2	\$ 3,425.2	\$ 2,935.3	\$ 75.0	-	-
Poudre River County (\$000)	66.3	66.3	66.3	66.7	-	-
Hawthorn County (\$000)	3,487.7	3,487.7	3,487.7	4,744.0	-	-
Total impact population, 2010 (median production scenario)	6,105	6,105	6,105	6,077	-	-
Total cumulative net fiscal balance, 2010:						
Custer County (\$000)	\$ 48,732.0	\$ 48,732.0	\$ 48,732.0	\$ 100.4	-	-
Poudre River County (\$000)	58,149.0	58,149.0	58,149.0	58,149.0	-	-
Hawthorn County (\$000)	148,949.3	148,949.3	148,949.3	2145,440.4	-	-
4.3 TRANSPORTATION						
Vehicle delays due to TWC trains (2011):						
Number of delayed vehicles	2,370	2,370	2,370	1,956	-	-
Percentage of trips delayed	2.0%	2.0%	2.0%	1.6%	-	-
Projected daily traffic volume (2011):						
FAR 20, 1-04 to Culver	1,630	1,630	1,630	1,630	-	700
FAR 20, Culver to Loma Deer	1,200	1,200	1,200	1,200	-	391
FAR 27, Loma Deer to Ashland	2,910	2,910	2,910	2,910	-	1,100
FAR 27, Ashland to Outer Creek Road (FAR 404)	3,520	3,520	3,520	3,520	-	829
FAR 27, Outer Creek Road to Brundage	1,970	1,970	1,970	1,970	-	762
FAR 23, Miles City to Brundage	970	970	970	970	-	310
FAR 407, Ashland to Mine Site 01 (16 miles)	823	823	823	823	-	130
FAR 566, Ashland to Mine Site 02 (7 miles)	210	210	210	210	-	122
FAR 409, U.S. 212 to Mine Site 03 and 05	1,950	1,950	1,950	1,950	-	122
4.4 ENERGY						
Net energy balance, median coal production scenario, (trillion Btu, 1993-2011)	8,702.6	8,770.8	8,770.8	8,770.1	-	n/a
4.5 AIR QUALITY						
Emissions during construction:						
Windblown dust (tons/year) -- 1993-1995	370	421	365	324	(153)	n/a
-- 1996-1997	45	45	45	45	-	n/a
Other dust (tons/year)	500-1,500	500-1,500	500-1,500	500-1,500	-	n/a
Heavy equipment emission, TSP (tons/year)	60-205	60-205	60-205	60-205	-	n/a
Heavy equipment emission, SO ₂ (tons/year)	70-234	70-234	70-234	70-234	-	n/a
Heavy equipment emission, CO (tons/year)	266-737	266-737	266-737	266-737	-	n/a
Heavy equipment emission, HC (tons/year)	186-317	186-317	186-317	186-317	-	n/a
Heavy equipment emission, NO _x (tons/year)	1,640-3,143	1,640-3,143	1,640-3,143	1,640-3,143	-	n/a
Positive dust emissions for operation of five mines (high coal production scenario, tons/year)	116.1	116.1	116.1	116.1	-	n/a
4.6 NOISE						
Projected noise levels along TWC Railroad (high coal production scenario, 2011):						
70-dBA contour	110 feet	120 feet	100 feet	115 feet	-	n/a
50-dBA contour	3,470 feet	3,900 feet	4,370 feet	3,550 feet	-	n/a
4.7 SAFETY						
Total grade-crossing accidents, TWC trains (median coal production scenario, 1993-2011)	7.6	8.2	7.5	8.7	-	n/a
Total derailments, TWC trains (1993-2011)	104	100	100	127	-	n/a
Derailment accidents (median scenario, 1993-2011)	509	509	509	509	-	n/a
Derailment derailments (median scenario, 1993-2011)	707	707	707	707	-	n/a
4.8 SOIL/GEOMORPHOLOGY						
Soil with potential for slump (miles)	27.5	27.2	27.6	26.0	(1.7)	n/a
Critical soils affected (acres)	100	100	60	72	(28)	n/a
Soil lost per year to wind erosion (tons)	25,604	24,925	25,356	10,773	(14,831)	n/a
Soil lost per year to water erosion (tons)	67,100	71,800	72,100	54,800	(12,300)	n/a
4.9 HYDROLOGY AND WATER QUALITY						
Increase in sediment load to stream (tons/year)	5,000	5,100	5,100	5,000	(100)	n/a
Increase in TSS in Yampa River (mg/l)	12-13	12	12	4	(8)	3-12
Increase in TSS in Silver Creek (mg/l)	10	10	10	10	-	10-100
Increase in TSS in Powder Creek (mg/l)	-	-	-	13	-	50-1,000
4.10 ANTHROPIC ECOLOGY						
Number of intermittent stream crossings	34	35	34	33	-	n/a
Number of perennial stream crossings	3	3	3	3	-	n/a
Number of river crossings	1	1	1	1	-	n/a
4.11 TERRESTRIAL ECOLOGY						
Vegetation and wildlife habitat lost due to the right-of-way (acres)	1,270	1,412	1,323	830	(440)	n/a
4.12 CULTURAL RESOURCES						
Known sites within the right-of-way	4	4	3	2	-	n/a
Known sites within 1,500 feet of centerline	24	26	23	20	-	n/a
4.13 AESTHETIC RESOURCES						
Impacts to landscapes (in miles):						
Very low	40.2	41.3	40.9	40.7	-	n/a
Low	22.2	19.5	20.0	21.0	-	n/a
Moderate	5.1	6.1	7.0	5.5	-	n/a
High	1.0	1.0	1.0	1.0	-	n/a
Impacts to Scenic Use Areas (SUA), 2011:						
Very low	4	4	1	-	-	n/a
Low	0	0	2	1	-	n/a
Moderate	0	0	4	7	-	n/a
High	1	2	1	1	-	n/a
TOTAL NUMBER OF SUEA:	22	22	22	20	-	n/a

^a 500 (or subtract) these figures from each alternative to include the Arland Rd Alignment

^b Yellowstone crossing not included

FINAL ENVIRONMENTAL IMPACT STATEMENT

TONGUE RIVER RAILROAD COMPANY

-- CONSTRUCTION AND OPERATION --

OF A LINE OF RAILROAD IN

CUSTER, POWDER RIVER, AND ROSEBUD COUNTIES, MONTANA

INFORMATIONAL CONTACT:

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EXECUTIVE SUMMARY

Conclusion

In assessing the environmental impacts associated with the construction and operation of a rail line to serve the Tongue River Valley, an in-depth and detailed analysis was conducted on the environmental effects of four possible routes: the proposed 89-mile rail line for the Tongue River Railroad (Proposed Rail Line), the Tongue River Alternative, the Moon Creek Alternative, and the Colstrip Alternative. This environmental analysis also examined the engineering and marketing considerations of each route because of the critical role these factors play for the Applicant in selecting the most feasible and practical route. On balance, given the environmental impacts associated with each of the four routes, it appears that two of the alignments, the Proposed Rail Line and the Colstrip Alternative, are feasible choices.

Due to its shorter length, the Colstrip Alternative would have the least environmental impact of any of the routes studied. Also, by virtue of its shorter length, it would affect the least number of landowners and would require the least acreage for rail construction and operation. This would help to minimize the rail line's impact on land use, which is a major concern to the affected landowners. Another major advantage of the Colstrip Alternative is that it is the only route which does not cross the Livestock and Range Research Station. Therefore, unlike the other routes, it would have virtually no environmental impact on this agricultural research facility.

The Proposed Rail Line also is a feasible route. Although the environmental impacts are greater than for the Colstrip route, they are comparable to those of the Tongue River and Moon Creek Alternatives. More importantly, the adverse environmental impacts attendant to the Proposed Rail Line can be mitigated in a reasonable manner. Although more acreage and landowners would be impacted by this route than by the Colstrip Alternative, the protective measures afforded property owners by Montana law and the mitigation measures outlined in the Mitigation Plan in Appendix B of this document would help to offset this difference.

As noted above, marketing and engineering considerations are critical to the Applicant in selecting the most feasible and practical route. From an engineering and marketing standpoint, the Proposed Rail Line has advantages over the Colstrip Alternative, as well as the other two routes. Apart from these marketing and engineering advantages, we believe that, coupled with full and good-faith implementation of the Mitigation Plan, the Proposed Rail Line is an environmentally acceptable route for the Tongue River Railroad.

Impacts expected to occur as a result of mining operations in the Tongue River region would be of greater significance on a region-wide basis than those directly attributable to railroad activities. The magnitude of the anticipated development will have enduring effects on the social and economic fabric of the area. Economic dependence on agriculture will diminish and a new focus on industrial development will ensue. Smaller communities will experience large population increases, altering their political and social structure. Utilization of natural resources will increase correspondingly, both out of economic necessity and for recreational purposes. Conflicts will occur in these areas.

Federal and state regulatory agencies require detailed analysis, mitigation, and management planning as part of the permitting process for each potential mining development. Local planning agencies and community governments are in the process of planning for potential development. In general, this process should lead to orderly management of growth and conflict resolution. The communities of Miles City, Forsyth, and Colstrip should be able to assimilate population increases and respond to associated needs and requirements with a minimum of difficulty. The community of Broadus, which will experience a major population influx, does have a formal structure capable of dealing with an increased demand for services, but it is likely to experience some difficulty. The communities of Ashland and Birney are not, at present, prepared to deal in an organized fashion with the potential impacts.

Introduction

On June 2, 1983, the Tongue River Railroad Company (TRRC) filed an application with the Interstate Commerce Commission (ICC) for a Certificate of Public Convenience and Necessity, authorizing the construction and operation of a new 89-mile rail line in Powder River, Custer and Rosebud Counties, Montana. The rail line would provide service to the proposed Montco Mine and other potential surface mines in the Ashland/Birney/Otter Creek area.

The ICC has deemed the preparation and issuance of a Certificate of Public Convenience and Necessity for the construction and operation of a rail line to be a major federal action subject to the reporting requirements of the National Environmental Policy Act (NEPA). This document is the Final Environmental Impact Statement (FEIS) for the project, prepared in accordance with the requirements of NEPA. This FEIS analyzes the potential impacts of the Proposed Rail Line, reasonable alternatives to it, and the impacts of those potential surface-mining operations considered to be related actions. The preparation of the FEIS was directed by the Section of Energy and the Environment (SEE) of the ICC, with the assistance of Historical Research Associates (HRA), a Montana corporation.

Prior to the preparation of this FEIS, the ICC directed the preparation of a Draft Environmental Impact Statement (DEIS) for the project. The DEIS, issued on July 15, 1983, analyzed the potential

impacts of the project in great detail. On January 19, 1984, the ICC issued a Supplement to the DEIS in response to optional considerations for the location of the northern terminus, submitted by the TRRC. The Supplement considered the environmental impacts associated with the proposed optional location for that facility.

Preliminary to preparation of these documents, a scoping and screening process was conducted by the ICC in cooperation with several federal, state, and local agencies with regulatory responsibilities for, or a special interest in, the project. During this process, the following entities were designated cooperating agencies: (1) the U.S. Department of Agriculture (USDA); (2) the U.S. Army Corps of Engineers; (3) the Federal Railroad Administration; (4) the Montana Department of State Lands (DSL); (5) the Miles City-Custer County, City-County Planning Board; (6) the Powder River County Commissioners; and (7) the Northern Cheyenne Indian Tribe. Input was sought and received from other state and federal agencies, as well as the public at large, throughout this process.

The intent of the scoping and screening process was two-fold. First; it was necessary, in accordance with NEPA, to identify those alternative routings and alternative modes of transportation that could be considered reasonable alternatives to the proposed railroad. Second, once again in accordance with NEPA, it was necessary to identify those issues and concerns specific to the proposal that should be included for consideration in an analysis of environmental impacts. Three alternative routes were identified as being worthy of detailed analysis in the document. Numerous issues were identified as requiring special attention and these are considered in the document.

Implications of the selection of a "No Action" Alternative also were examined during the scoping and screening process. It was determined that a "No Action" recommendation in response to the application would result in one of two scenarios. The first would assume that an alternate mode of transporting coal from the area would be more appropriate. The second would assume that no means of transportation is selected, and that coal would not be exported from the area. Due to various environmental, economic, engineering and legal considerations examined during the process, the possible alternative modes of transportation were eliminated. As a result, for purposes of this analysis, the "No Action" Alternative, representing no development of the area's coal resources, was depicted in the base-line conditions and projections described in the DEIS.

The DEIS analyzed potential impacts based on several possible levels of production. These "coal production scenarios," designated low, medium and high, were developed using projected coal demands from available market data, landholdings, ownership patterns and lease information, as well as other industry data.

The FEIS and all other documents mentioned will become part of the official record in the proceedings before the ICC to grant or deny the Certificate of Public Convenience and Necessity to build and

operate the railroad under 49 U.S.C. §10901. In addition, the FEIS is expected, at least in part, to fulfill statutory requirements of the cooperating agencies in relation to review of the proposed railroad.

Project Purpose and Need

Estimated strippable coal reserves in excess of 10 billion tons exist in the Ashland/Birney/Otter Creek area. This amount would translate into an energy equivalent greater than that produced by over 30 billion barrels of oil, or enough energy to supply nearly one-third of the nation's entire projected demand in the year 1985. This coal resource has not yet been developed.

Construction and operation of the proposed railroad would provide a means of transporting coal from the proposed Montco Mine and other potential mines in the region to a connecting point on the Burlington Northern (BN) mainline, from which it would be shipped to markets, most likely outside of Montana, downline both to the west and to the east. The project would facilitate the development of area mines by assuring a dependable and cost efficient means of coal transportation.

Market information and economic feasibility of the project are considered by the ICC separate from the EIS process. Detailed financial data will be submitted as part of the application for a Certificate of Public Convenience and Necessity and will be part of the official record in these proceedings.

Regional Environment

The environmental effects from the construction and operation of the Tongue River Railroad and the development of the related surface mines would occur primarily in Powder River, Custer and Rosebud Counties, Montana (see Fig. E-1). Generally, the impact area is a portion of the Tongue River Basin, downstream from the Tongue River Reservoir near Birney, Montana, extending northward to the confluence of the Tongue and Yellowstone Rivers at Miles City, Montana. The community of Broadus roughly coincides with the eastern extremity of the impact area, while Forsyth, Colstrip and the Northern Cheyenne Indian Reservation are situated along the western edge of the area (see Fig. E-1). Some analyses included in the DEIS required consideration of the entire three-county area, while some refer strictly to areas of specific physical disturbance.

The Tongue River Basin, as with the rest of southeastern Montana, is sparsely populated and semiarid with a predominantly agricultural economic base. The livestock industry dominates the agricultural scene, with most of the land being used for grazing. A small percentage of the land is devoted to crops, with an even smaller percentage under irrigation. Rosebud County ranching operations average nearly 9,000 acres in size. Ranching operations require similarly large acreages in Custer and Powder River Counties in order to remain economically viable.

The area is biotically diverse, with sufficient populations of big game animals, upland game birds, and warm water fish species to provide excellent recreational opportunities for hunters and fishermen. Vegetation in the Tongue River Basin is characteristic of the Northern Great Plains, with plant species typically being adapted to the climatic extremes that occur in the area. Plains cottonwood dominates the deciduous tree/shrub type occurring along stream and river bottoms. Moderately moist upland sites frequently support stands of ponderosa pine. Units of the Ashland Division of the Custer National Forest are within the study area.

Dryland farming and irrigated cropland tend to occur in the valley bottoms near the river. Human population concentrations also tend to occur along river bottoms, often near the confluence of a river and major tributary. Communities expected to incur impacts from the proposed railroad and related actions include: (1) Ashland, at the confluence of Otter Creek and the Tongue River; (2) Birney, at the mouth of Hanging Woman Creek on the Tongue River; (3) Broadus, near the juncture of the Powder and Little Powder Rivers; (4) Miles City, on the Yellowstone at the mouth of the Tongue River; (5) Forsyth, on the Yellowstone; and (6) Colstrip. In addition, the Northern Cheyenne Indian Reservation, bounded on the east by the Tongue River, will be subjected to some impacts from the project.

Government structure in the area is provided in several ways. Each county has a board of county commissioners and most communities have a mayor and city council in place. Where this does not occur, the local school board may provide the sole vestige of local government. The Northern Cheyenne Indian Tribe is a politically independent unit, relying on an elected tribal council for governance.

Employment in the study area is, for the most part, derived from agricultural activities. A growing dependence on energy development is evident, however, especially in Rosebud County. Unemployment, with the exception of the Northern Cheyenne Indian Reservation, has been historically lower than that experienced on a regional or statewide basis. The Northern Cheyenne are currently experiencing unemployment at a rate of nearly 50 percent, significantly higher than nearby non-Indian communities.

Project Description and Schedule

The proposed Tongue River Railroad would involve the construction of an 89-mile rail line extending southward from Miles City, Montana, to two terminal points near the community of Ashland. The rail line would join the existing Burlington Northern Railroad at Miles City (see Fig. E-1). The TRRC has applied for two options for the northern terminus. The Proposed Rail Line (Proposed Action) originally included a tie-in through the abandoned Milwaukee Road yards in Miles City. The Burlington Northern (BN) Option includes a direct tie with the BN near Branum Lake, south and west of Miles City. This option was analyzed in detail in the Supplement to the DEIS (January 19, 1984).

The Proposed Action would follow the west side of the Tongue River south from Miles City. This portion of the route would cross the USDA Livestock and Range Research Station (LARRS). The route continues along the west bank of the river to a point some 10 miles north of Ashland, where it crosses the river and continues south to a bifurcation point near that town. One branch would continue south and east, following the Otter Creek drainage, crossing that stream near the terminus 7.7 miles from Ashland. The other branch would follow one of two possible alignments in or around Ashland and continue to the southwest along the Tongue, remaining on the east side, to a terminus near the proposed Montco Mine, 8.9 miles from Ashland. The Ashland SE alignment would skirt the eastern edge of Ashland and cross the rugged country separating Otter Creek and the Tongue River Valley before reaching the Montco terminus. The Ashland NW alignment would enter Ashland from the north and go through the community, following the Tongue River all the way to the terminus at the Montco site.

The Proposed Rail Line would be constructed to contemporary main-line standards, occupying an average right-of-way (ROW) width of 200 feet. The rail line would require the construction of 6 sidings and 12 bridges.

Construction would commence in 1985 and would be completed by 1989. Once in operation, the rail line could, under high coal production scenarios, be expected to handle as many as 25 trains per day. Each unit-train will consist of 105 hopper cars with a capacity of 100 tons each. Approximate cost of the Proposed Rail Line would be \$152 million.

Alternative Routes

Three alternative routes identified in the scoping and screening process are analyzed in detail in the DEIS. Each of these routes is identical to the proposed route from the point of the Tongue River crossing, north of Ashland to the terminal points. The alternative alignments through Ashland are included in all routes. Construction schedules, potential capacity demands and ROW characteristics would not vary significantly by route.

The Tongue River Road Alternative Route would depart Miles City along the proposed route, and continue along that route to a point just north of Pumpkin Creek. There it crosses the Tongue River, turns south and continues along the east side of the river to join the proposed route about 10 miles north of Ashland. An additional bridge across Pumpkin Creek would be required for this route. The total length of the Tongue River route would be 88 miles, with an approximate cost of \$154.4 million.

The Moon Creek Alternative Route would leave Miles City, following the old Milwaukee Road alignment to the west, crossing the Yellowstone River and following the north bank for about 8 miles. Here, the route would again cross the Yellowstone and follow the east side of Moon Creek to the divide separating the Tongue and Yellowstone

River drainages. From there, the route would descend to the Tongue River Valley floor and join the proposed route about 14 miles south of Miles City. This route would cross the western edge of the LARRS. One additional bridge would be required for the Yellowstone River crossing, and one existing bridge on the Milwaukee line would require refurbishment. The total length of the Moon Creek route would be 89 miles, with an approximate cost of \$148.9 million.

The Colstrip Alternative Route would leave the existing Cow Creek branch of the Burlington Northern at Colstrip, crossing Cow Creek and Rosebud Creek as it heads south and east, following the Greenleaf Creek valley to the Rosebud Creek/Tongue River divide. From there it descends into the Tongue River valley and joins the proposed route at the Tongue River crossing north of Ashland. An additional bridge across Rosebud Creek would be required for this route. With a total length of 46.1 miles, the Colstrip route would cost about \$83.4 million.

Issues of Concern

The scoping and screening process led to the identification of several areas of concern to the cooperating agencies and to the public-at-large. Special attention was given to each of these concerns in conducting the environmental analysis and in preparing the DEIS.

Livestock and Range Research Station (LARRS)

The USDA is concerned about the potential impacts of rail line construction and operation on the LARRS, an agricultural research facility near Miles City. A variety of research projects are being conducted on the station, some of which may be susceptible to disturbance from railroad-related activities. Environmental factors, influenced by construction and operation of a railroad, may alter study results and threaten the integrity of historical data bases. Additional problems could result from access restrictions and vehicle delays caused by train traffic and the disruption of irrigation systems. Three of the four possible routes traverse portions of the LARRS.

Northern Cheyenne Indian Reservation

The Northern Cheyenne Indian Tribe is concerned about impacts of the proposed railroad and related actions on the traditional culture and well-being of the tribe. Increased population near the reservation and increased travel across it are anticipated as a result of the project. It is feared that cross-cultural contact resulting from this development will serve to undermine the traditional way of life practiced by the Northern Cheyenne. There is concern that religious sites could be disturbed, tribal recreational resources could be overtaxed, and social problems exacerbated by energy development. None of the possible alignments cross the reservation, but all pass within close proximity, and mining development would take place along the eastern boundary of the reservation.

Agricultural Operations

Local residents involved in agriculture are concerned about the potential impacts to farming and ranching operations. Prominent among those concerns are:

1. Direct loss of agricultural land due to the right-of-way;
2. Loss of agricultural use due to severance of parcels;
3. Disruption of irrigation systems;
4. Access restrictions and barriers to livestock movement due to the rail line;
5. Increased livestock mortality due to vehicular and train traffic;
6. Increased trespass and vandalism problems.
7. Railroad-caused wildfire, increasing fire danger in the area.

Community Structure/Lifestyle

Local residents also have expressed concern over the impacts of rapid population growth on the existing rural/agricultural lifestyle of the area. This concern is linked to fears that "boomtown" impacts experienced in other energy development areas will occur here. Some residents believe that the values of the new population will conflict with their own, that crime, alcoholism and associated social ills will increase, and that the quality of life will be diminished for them.

Cumulative Hydrologic Impacts of Mining

Area residents are concerned that the development of surface mining operations will result in serious long term adverse effects on the quantity and quality of water available in the area. Some speculate that aquifers, disturbed by mining, will be permanently depleted or destroyed, and that increased erosion and accidental discharges of waste waters will diminish water quality to the point that it is unsuitable for use. This concern is underlain by the importance of water resources in an arid environment with an agriculturally based economy.

Environmental Impacts

Construction and operation of a rail line to the Ashland/Birney/Otter Creek area would result in impacts similar in nature but varying in magnitude according to construction specifications and site-specific characteristics of each route. Construction impacts can, with exceptions, be characterized as short term, while operational impacts will continue for the life of the project.

Impacts to the area from the development of related mines will permanently alter the basic character of the Tongue River region. The impacts expected as a result of the development of surface-mining operations will not vary significantly in response to route selection for the railroad.

Land Use

Construction and operation of the proposed railroad would result in the removal of some acreage from agricultural production for the life of the project. The acreage removed would be restricted to that land required for right-of-way and for maintenance facilities. Land removed from production as a result of mining activities is technically considered a short term loss due to federal and state requirements relating to the reclamation of mined land. Total acreage out of production during any given year would be a function of the coal production level applied and site specific reclamation success.

In some cases, existing land uses may be subject to change due to disturbance of irrigation systems, barriers to cattle movement, displacement of some residences and loss of aesthetic or recreational values. Some ranching properties also may decline in value due to the proximity of the rail line.

Some impacts to research being conducted on the LARRS will occur. Impacts to agricultural land uses may be magnified on the LARRS due to the necessity of maintaining certain "constants" in a research setting. The introduction of new variables could render some tracts unsuitable for current research needs.

With the selection of the BN Option for the northern terminus, conflicts could arise with plans for expansion of the Miles City Fish Hatchery, operated by the Montana Department of Fish, Wildlife, and Parks. In addition to direct impact from right-of-way acquisition, additional impacts to the expanded facility could occur, leading to interference with the effective operation of that facility.

Social/Economic

Construction and operation of the proposed railroad and development of the related surface mines would generate a positive effect on the economy of the study area in terms of the creation of jobs, the increase in per capita income and the long term decrease in per capita tax burden. Steady growth in mine-related employment would coincide with the continuing gradual decline in agricultural employment. A shift from the existing agricultural economic base to an industrially oriented economy would occur. Availability of agricultural labor may decline in response to more lucrative employment associated with mining.

Population growth due to immigration of railroad and mining personnel would result in sociological impacts. Changes in lifestyle and in the political and social character of communities may occur. The quality of recreational opportunities available to residents will diminish somewhat as competition for available recreational resources increases.

With the exceptions of Ashland and Birney, impacted communities should be able to assimilate increased population with a minimum of difficulty. Ashland currently does not have the community structure

necessary to absorb the anticipated impacts. Similarly, Birney, a small unincorporated ranching community, is unprepared to address the potential impacts.

Some conflicts may arise as a result of increased interaction among members of the Northern Cheyenne Indian Tribe and nonmembers who commute daily across the reservation to work. Increased and unauthorized use of the already overtaxed recreational resources on the reservation by non-Indians may cause friction as well.

Transportation

Train traffic on the new line would result in traffic delays in some communities that had not previously experienced them. Increased traffic on existing lines will result in slight increases in traffic delays in Miles City, Forsyth and downline communities to the east and west.

Increased population and highway use would require that some existing highways be widened, paved, and realigned. Some bridge enhancement might also be required. Additional traffic resulting from railroad construction and operation will likely result in an increased incidence of motor vehicle accidents. Traffic across the Northern Cheyenne Indian Reservation would increase from commuter activity related to operation of potential mines in the area.

Energy

The BTU content of the coal from the mines to be served by the TRRC railroad would exceed that expended in construction and operation of the railroad and related actions by nearly 4,000 percent.

Air Quality

Temporary localized air quality impacts would occur as a result of the construction of the Proposed Rail Line and the related mines. These impacts would largely result from dust and emissions from construction equipment.

Impacts to air quality from the operation and maintenance of the railroad and related mines would occur, largely as a result of diesel fuel emissions, but would not be likely to violate state and federal standards. Fugitive dust problems associated with traffic on unpaved roads in the Ashland area would continue and intensify as a result of increased vehicular traffic related to the railroad and to the mines.

Noise

During the construction of the Proposed Rail Line, some residents of the area would be exposed to noise impacts from construction equipment. In some cases this may cause inconvenience, but these impacts are not expected to reach levels which might be injurious to human health.

Operation and maintenance of the railroad would subject residents to increased noise levels. It is not anticipated that the noise will become a health hazard.

Safety

Construction-related safety impacts are likely to be confined to the TRRC work force and the various construction sites. The exception to this would be traffic accidents that might occur on public roadways on the way to and from work. Such incidents may increase in proportion to increased traffic.

Some grade-crossing accidents and train derailments would occur within the project area as a result of operation of the railroad. Projections for such occurrences vary by scenario. Similar incidents would occur downline from the project area. When compared to nationwide statistics, the projected rate of occurrence of such accidents attributable to TRRC traffic would be quite low.

Soils and Geology

There will be soil loss as a result of erosion during construction of the Proposed Rail Line and related mines. Some soils in the region may be susceptible to slumping. If this occurs along the route selected, special construction/mitigation techniques are suggested. Salinity and sodic qualities of some soils may render them unsuitable for use in reclamation of mined lands. In such cases, special handling and reclamation techniques will be necessary.

Hydrology

Temporary increases in sediment loads in area streams would result from construction of the Proposed Rail Line. These increases are not expected to alter the suitability of the water for its current usage.

The mines to be served by the TRRC railroad would provide the greatest impact to water resources. Surface and ground water systems would be disrupted. Significant water quality changes could occur in spoils ground waters. However, the cumulative effect on normal streamflow and water quality is not expected to be great. Water impacted by the mines should remain suitable for its current usage.

Studies of the Proposed Action and its potential impact on a catastrophic breach of the Tongue River Dam indicate that the railroad grade would not contribute significantly in terms of property damage or threat to health and safety. Two areas were identified where the railroad grade would constrict the flood plain, but not in a manner that would affect dwellings or valuable agricultural land. The additional acreage affected would be the steep, broken, and eroded terrain.

Aquatic Ecology

The quality of some aquatic habitat could be degraded as a result of increased sediment loads during construction of the proposed railroad. Some habitat will be lost due to bridge construction. Proper mitigation should avoid significant impacts to important fish species. Fuel and chemical spills during operation of the railroad and related mines could cause increased mortality among fish species inhabiting reaches of the streams that are contaminated.

Terrestrial Ecology

Vegetation and wildlife habitat would be lost in varying degrees, according to the route selected and coal production scenario applied. Increased wildlife mortality due to increased human population, both accidental and as a result of increased hunting pressure, would occur. Some wildlife movement patterns would be disrupted. No threatened or endangered species have as yet been identified in the area. No threatened and endangered animal species have been identified as indigenous to the area, although some, presumably migrating, individuals have been recorded.

Cultural Resources

Several prehistoric and historic sites will likely be impacted by the construction and operation of the proposed railroad and related mines. Varying by route and coal production scenario, some sites would be destroyed, while others would be impacted by the proximity of activities relating to the railroad or mining. A number of affected sites could be eligible for the National Register of Historic Places. Proper evaluation, excavation, and analysis, as necessary, should mitigate impacts to most sites.

Aesthetics

Most of the impacts to visual resources as a result of construction and operation of the railroad are rated very low. The existing pastoral landscape at projected mining locations would be altered to reflect the new industrial land use.

Route Comparison

The analysis conducted in preparation of the FEIS delineates quantitative differences in potential environmental impacts by route. Those potential impacts not lending themselves to strict quantification, but requiring more general qualitative consideration, also were examined. Engineering and marketing considerations also are involved in a comparison of routes (see DEIS, Appendix B), and will play a critical role for the Applicant in the final routing determinations and ultimate feasibility of the railroad. Impacts anticipated from the proposed and projected surface-mining operations in the Tongue River area do not vary by route of the rail line and are not included in this discussion.

The Proposed Rail Line provides a direct link with the existing Burlington Northern mainline at Miles City. From an engineering standpoint, this would be the most desirable route. The 0.2-percent ruling grade against load is smaller than any of the alternative routes. In addition to the lowest construction costs on a per mile basis, this factor could result in long term operational fuel savings.

The Proposed Rail Line is not as environmentally desirable as is the Colstrip Alternative Route. Environmental impacts associated with the Proposed Rail Line would be greater than those from the Colstrip Route, but would be comparable to those that are anticipated for the Tongue River Road Alternative Route and the Moon Creek Alternative Route.

The Tongue River Road Alternative Route would utilize an existing transportation corridor, thereby limiting, to some extent, the necessity to sever agricultural parcels and disturb irrigation systems. It would, however, result in the loss of approximately 17 acres of prime farmland to the right-of-way. From an engineering standpoint, the route would not be as desirable as the Proposed Rail Line. The 0.85-percent ruling grade against load would result in higher construction and ultimately higher operational costs. The potential for grade-crossing accidents along the Tongue River Road Alternative Route would be higher than for any of the other alternatives. The Tongue River Road Alternative Route follows the same alignment through the LARRS as the Proposed Rail Line, and would pose the same potential for impacts to ongoing research.

The Moon Creek Alternative Route was examined primarily as a means of limiting the potential impacts to the LARRS. It traverses only 2.5 miles of the southwest corner of that facility and would not be likely to affect significantly ongoing research activities. A 1-percent ruling grade against load renders this route less favorable in terms of engineering constraints, energy efficiency, and ultimate consumer costs. The Moon Creek Alternative Route would require the construction of a railroad bridge across the Yellowstone River. None of the other routes under consideration include a Yellowstone crossing. The resulting potential for impact to aquatic resources would be greater than any of the other routes.

The Colstrip Alternative Route, by virtue of the considerably shorter distance involved, would result in proportionally fewer environmental impacts than any of the other routes under consideration. It would avoid impacts to the LARRS entirely. However, increased rail traffic in the Colstrip and Forsyth areas would result in more vehicular delays. A slightly greater percentage of construction and operation impact population would be located in Colstrip. Rail line construction activities and train operations could contribute to existing air quality problems in the vicinity.

Mitigation

In cooperation with parties to the proceeding, a mitigation plan has been prepared. That plan, which appears as Appendix B to this document, delineates anticipated effects of the Applicant's proposed action on the physical and natural environment and recommends appropriate ameliorative action. The decisionmaker is urged to adopt the mitigation plan as it relates to alleviating adverse impacts to the physical and natural environment.

The mitigation plan also addresses the potential social and economic impacts of the Applicant's proposed action. Of particular concern in this regard are potential impacts to land uses in the affected territory. We emphasize that the mitigation plan does not purport to address, nor should it be interpreted as addressing, all conceivable losses to ranchers, farmers, and others whose land may be affected by the Applicant's proposed action. These matters are best left to state eminent domain proceedings, which are designed to protect adequately the interests of all concerned. To the extent that the document recognizes and treats some losses of land or land use, it does so only for purposes of use. It does so not only for purposes of providing examples, but also to facilitate dispute resolutions relative to non-pecuniary interests in land (e.g., trespass). Although the decisionmaker is urged to adopt the mitigation plan as it relates to alleviating adverse social and economic impacts, it should be made clear that the mitigation plan is not the exclusive remedy available to farmers, ranchers, and others whose property may be affected by the Applicant's proposed action.

Comments received in response to the invitation to address the mitigation plan, as originally proposed, will accompany this document to the decisionmaker.

4.14.5 Overall Impacts

The construction of the Tongue River Railroad over the route of the proposed rail line or any of the alternatives would cause the loss of agricultural land or its use through direct acquisition or severance. Overall agricultural land use losses for the route of the proposed rail line would approximate 3,024 acres with an estimated loss in productivity over the analysis period of \$3.6 million. Losses for the alternatives would range between 1,625 and 3,222 acres with a production value of between \$761,000 and \$3.5 million.

Facilities used in agricultural operations would be displaced by all of the routes. While impacts to specific farms and ranches might be significant, the overall displacement is not high for any of the routes. The increase in population and activity associated with construction would affect agricultural operations largely from an inconvenience standpoint. The availability and the cost of labor would decrease and increase respectively as a result of construction employment possibilities.

Desirability of land for agricultural purposes may decrease for parcels adjacent to the right-of-way during operation of the line. Delays at crossings and resulting access problems for farmers and ranchers could occur during this period.

Mining operations and associated community growth related to the railroad could result in lost production totaling \$1.7 million.

4.15 Summary Comparison of Proposed Action and Alternatives

The "No Action Alternative" assumes that the proposed railroad and related mines would not be constructed. Under this alternative, there would be no impact from construction of the railroad in the Tongue River Valley. From a socioeconomic perspective, there would be very little change in the total region-wide population after the completion of Colstrip Units 3 and 4 in 1986. Powder River and Custer County populations would decrease through the analysis period (1984-2010), while Rosebud County's population would grow moderately during that same period. Although the agricultural sector would continue a historic decline, there would be little structural change in the area's economy. The demand for services would grow slightly during the period. However, with the reduction in industrial development in the region, revenues to local governments also would decline. It is likely that additional tax revenues would be required to meet continuing demands for government services.

Construction of the proposed rail line would result in a number of environmental impacts. While the Proposed Action does not conflict with established land use plans in the region, some changes in current

land use would result. Lands that would be lost due to construction of the right-of-way and to severance by the railroad are primarily in agricultural use. Some irrigated lands, none of which are considered prime farm land, would be affected by the construction of the rail line. Most of the impacts from construction of the railroad could be mitigated by the Tongue River Railroad Company.

The Proposed Action also will cause social and economic impacts to the three affected counties (Custer, Rosebud, Powder River). Again, most of the impacts are mitigable. Losses in agricultural production value will be more than offset by revenues received from the railroad and the proposed mines. However, population growth in the region would have some adverse effects on the social fabric of the area. Most communities have sufficient structure to accommodate the impact population. However, the communities of Ashland and, to a lesser extent, Birney would have more difficulty adjusting to the increased population.

Construction of the proposed rail line would have little long term impact on biological and physical resources in the project area. Temporary disturbance to soils and vegetation, to aquatic resources, and to air quality would occur, but could be mitigated by proper construction of the rail line. With regard to wildlife impacts, operation of the railroad could disrupt some movement patterns between the uplands and bottomlands. Some wildlife habitat would be lost due to construction of the right-of-way. As with other environmental effects, many potential wildlife impacts can be mitigated through careful planning and proper construction techniques.

Impacts that would occur as a result of mining operations in the Tongue River Valley are expected to be more significant than impacts from construction of the TRRC's proposed railroad. Changes that necessarily would occur as a result of railroad and mine development, such as increased population and a switch from an agricultural to an industrial economic base, would impact local communities. Once again, the communities of Miles City, Colstrip, Forsyth, and Broadus are most able to accommodate the increased population. The communities of Ashland and Birney would receive the most adverse impacts from industrial development of the Tongue River Valley.

Impacts to biological and physical resources would be most pronounced in the area of soils and hydrology. On a localized basis, surface and ground water would be disrupted, although the cumulative affect on the normal river flow would be small. Although the alluvial ground water quality should not be impacted beyond specific mining areas, significant water quality changes could occur in the spoils ground waters. The increases in Total Dissolved Solids (TDS) concentrations, however, would not alter the suitability of water for current uses. With regards to soils, available data suggest that unaf-

ected soils may cover the area sufficiently to provide adequate surface soil for reclamation after mining. However, the majority of the soils in the project area exhibit poor reconstruction suitability ratings, a condition which increases the cost of reclamation. In the case of both hydrologic and soils impacts from mining, the regulatory regime in force in the State of Montana would require the preparation of adequate reclamation and hydrologic plans for each mine.

The overall environmental impact of construction and operation of a railroad to serve coal mines in the Tongue River Valley would be greater from the Proposed Rail Line, the Tongue River Road and the Moon Creek Alternative Routes than it would from the Colstrip Route. The Colstrip Alternative Route, by virtue of its length, would exert quantitatively fewer environmental impacts. In addition, the Colstrip Route avoids impacts to the LARRS.

None of the four possible routes, however, poses an insurmountable environmental problem. Impacts associated with the Proposed Rail Line can be mitigated in an acceptable manner, as illustrated in Appendix B to this FEIS. Since all of the routes would serve the same coal mines, the impacts from related actions do not differ by alternative. The detailed analysis by route contained in the DEIS addresses the impacts, both specifically and cumulatively. Impacts from the Proposed Rail Line would be comparable to those that are anticipated from the Tongue River Road Alternative Route and the Moon Creek Alternative Route. The differences between the various routes are presented below.

The Tongue River Road Alternative Route would utilize an existing transportation corridor, thereby limiting, to some extent, the necessity to sever agricultural parcels and to disturb irrigation systems. It would, however, result in the loss of approximately 17 acres of prime farmland to the right-of-way, and an additional severance of 37 acres of prime farmland. The displacement of homes on the Tongue River Road route also will be higher than if the route of the proposed rail line is selected. Slightly more acreage would be needed for the right-of-way of the Tongue River Road route, although it does not differ substantially from the proposed rail line. The Tongue River Road Alternative Route does not differ from the Proposed Rail Line in its affect to the Livestock and Range Research Station.

The most important advantage of the Moon Creek Alternative Route is that it limits the impacts to the LARRS which would occur along the proposed route and the Tongue River Road Alternative Route. The route would traverse only 2.5 miles of the southwestern corner of that facility. It would not be likely that ongoing research activities would be significantly affected. The Moon Creek Alternative Route would, however, require the greatest acreage for right-of-way construction of any of the alternatives. The only other significant difference in the

Moon Creek route would be the requirement of the construction of a railroad bridge across the Yellowstone River. None of the other routes under consideration include a Yellowstone crossing. The resulting potential for impacting aquatic resources would be greater than for any other route. Moreover, the Yellowstone crossing would require a Section 10 permit from the U.S. Army Corps of Engineers.

The Colstrip Alternative Route, by virtue of the considerably shorter distance involved, would result in proportionally fewer environmental impacts than either the Proposed Rail Line or other alternatives under consideration. It would avoid impacts to the LARRS entirely. However, increased rail traffic in the Colstrip and Forsyth areas would result in more vehicular delays in those communities. A slightly greater percentage of the construction-and-operation impact population would be located in Colstrip, should this route be selected. In addition, rail line construction activities and train operations would contribute to existing air quality problems in the vicinity of Colstrip.

The BN Option differs only slightly from the Proposed Action. Thirty (30) fewer acres would be required for right-of-way or facilities. The City of Miles City would not benefit from direct tax revenues, due to the location of the yard facility. More vehicular delays would occur in Miles City, but they would be confined to the BN mainline. No emergency service delays are projected, unless the grade-separated crossing in that community is not usable. Fewer total accidents would occur at crossings, and all would now occur on the existing BN mainline. Conflicts could occur with the Miles City Fish Hatchery. These conflicts will be resolved under the authority of the State of Montana.

EXHIBIT I

FINANCE DOCKET NO. 30186

RAIL CARRIER Tongue River Railroad Company, Inc.
AGENCY: Surface Transportation Board
ACTION: Notice of Revised Deadline for Filing Comments on a Revised
Application to Construct and Operate the Previously Approved Line of
Railroad in Custer, Rosebud, and Powder River Counties, Montana

SUMMARY

On October 16, 2012, Tongue River Railroad Company, Inc. ("TRRC") filed an updated application with the Surface Transportation Board seeking authority to construct a common carrier rail line between a BNSF Railway Company ("BNSF") line in Montana and Ashland/Otter Creek, Montana. A line designed to serve the Ashland/Otter Creek area was previously approved in 1986 by the Surface Transportation Board's ("Board") predecessor – the Interstate Commerce Commission ("ICC") -- in *Tongue River R.R. – Rail Construction and Operation – In Custer, Powder River and Rosebud Counties, MT*, Finance Docket No. 30186 (ICC served May 9, 1986) (hereafter "1986 Decision"). As the expected operator of the rail line, BNSF joined in the updated application. On November 1, 2012, the Board served a decision directing TRRC to file supplemental information by December 17, 2012 relating to the transportation merits of the rail line that TRRC proposes to build and also extending the due date for comments in support of or opposition to the revised application as supplemented by TRRC to **March 1, 2013.**

The rail line approved in 1986 connects with a BNSF line at its northern end near Miles City, MT. Near its south end, the line splits into two branches just south of Ashland, MT and has two Terminus Points – (1) Terminus Point #1 continues southwest and terminates at the

previously proposed Montco Mine location ("Montco Mine Spur"), and (2) Terminus Point #2 continues south from the Ashland area along the Otter Creek ("Otter Creek Spur"). TRRC does not intend to construct the rail lines south of Terminus Points #1 and #2 that were the subjects of its applications in TRRC II¹ and TRRC III.² Other alternative routings for the line to serve Ashland/Otter Creek are currently under review and will be addressed during the environmental review in the STB proceeding.

The purpose of the rail line is the same as the purpose of the rail line approved in 1986; namely, to transport low sulfur, sub-bituminous coal from proposed mine sites in Rosebud and Powder River Counties, Montana, including proposed mines in the Otter Creek area. The rail line will also operate as a common carrier line and will thus be available to transport other commodities on reasonable request.

TRRC will supplement its updated application by December 17, 2012 to include relevant information from the 1986 proceeding and to elaborate on certain points raised in its updated application. In addition, TRRC has retained a third party contractor pursuant to 49 C.F.R. § 1105.10(d) to work with the Board's Office of Environmental Analysis ("OEA") in preparing necessary environmental documentation as required by NEPA in connection with the TRRC project. OEA has identified several alternative routings which it intends to study. The Board's environmental documentation will be made available for public review and comment at a later date.

Any interested party may advise the Board of its interest in this proceeding and/or file written comments on the revised application with the Board. The deadline for filing with the Board any notice of interest and/or written comments (with 10 copies) has been extended from

¹ Finance Docket No. 30186 (Sub-No. 2), *Tongue River Railroad Company – Rail Construction and Operations – Ashland to Decker, Montana*.

² Finance Docket No. 30186 (Sub-No. 3), *Tongue River Railroad Company, Inc. – Construction and Operation – Western Alignment*.

November 20, 2012 to **March 1, 2013**. Written comments must contain the basis for the party's position either in support of or in opposition to the proposal. Written comments should indicate the proceeding. STB Finance Docket No 30186, and should be filed with the Surface Transportation Board, Office of the Secretary, Case Control Unit, 395 E Street, SW, Washington, DC 20423-0001. A copy of each comment shall also be served upon TRRC's representative: David H. Coburn, Steptoe & Johnson LLP, 1330 Connecticut Ave , NW, Washington, DC 20036. (202) 429-8063, FAX: (202) 429-3902. TRRC's reply to comments in support or opposition to the revised application will be due on April 15, 2013. On the basis of the comments and reply, the Board will decide if a hearing is necessary.

A copy of the updated application is currently available for public inspection at the offices of the Surface Transportation Board and on the Board's website, and a copy of TRRC's supplement thereto will be available for public inspection subsequent to December 17, 2012

APPENDIX A

VERIFIED STATEMENTS

Stevan B Bobb, President of the Tongue River Railroad Company, Inc

William M Rowlands, President of Otter Creek Coal, LLC

VERIFIED STATEMENT OF STEVAN B. BOBB

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

Finance Docket No. 30186

**TONGUE RIVER RAILROAD COMPANY, INC. – RAIL CONSTRUCTION
AND OPERATION – IN CUSTER, POWDER RIVER AND
ROSEBUD COUNTIES, MT**

**VERIFIED STATEMENT OF
STEVAN B. BOBB**

My name is Stevan B. Bobb. Since December 2011, I have been President of Tongue River Railroad Company, Inc. ("TRRC"). I also am the recently appointed Executive Vice President and Chief Marketing Officer for BNSF Railway Company ("BNSF"). My previous position at BNSF was Group Vice President, Coal Marketing. I joined BNSF's predecessor, the Burlington Northern Railroad, in 1987 and have been employed continuously by the railroad since that date. Following some early work in information systems and marketing support, my career has been spent primarily in line marketing positions. I have a B.S. in Agriculture from North Dakota State University.

Since becoming President of TRRC, I have been involved in the general oversight of the Tongue River Railroad project. Based on my experience in my current position, I am very familiar with the transportation of coal by rail and specifically with the need for the TRRC line for transporting the substantial reserves of Northern Powder River Basin coal mined at Otter Creek and potentially elsewhere in the Ashland area of southeastern Montana.

I. TRRC Plans to Construct Colstrip Alignment

TRRC currently intends to construct and operate an approximately 42-mile line between Colstrip, MT and south of Ashland, MT with two termination points – one that proceeds up the Tongue River Valley to the previously proposed Montco Mine (“Terminus Point 1”) and the other that extends up the Otter Creek drainage (“Terminus Point 2”). TRRC does not intend to construct any rail line south of Terminus Point 1. In other words, TRRC is not proposing to construct the rail line that was the subject of its applications in the TRRC II¹ and TRRC III² proceedings.

TRRC’s current proposed rail line is generally referred to as the Colstrip Alignment because it will result in traffic being routed through Colstrip, MT and will connect with BNSF’s Colstrip Subdivision. It follows a different route than the Miles City, MT to Ashland/Otter Creek alignment proposed in TRRC’s October 16, 2012 Revised Application. TRRC has now chosen this different route for its preferred alignment based on additional engineering and other data that show that the Colstrip Alignment offers an operationally feasible, cost-effective and less environmentally impactful routing for the rail line. Notably, the Colstrip Alignment will require only 42 miles of new construction, as opposed to more than twice that amount of new rail construction for the route through Miles City previously approved by the ICC in the TRRC I proceeding, and almost twice that amount for the modified version of the Miles City route offered by TRRC in its October 16, 2012 application.

¹ The TRRC II proceeding is Finance Docket No. 30186 (Sub-No. 2), *Tongue River Railroad Company – Rail Construction and Operations – Ashland to Decker, Montana*.

² The TRRC III proceeding is Finance Docket No. 30186 (Sub-No. 3), *Tongue River Railroad Company, Inc. – Construction and Operation – Western Alignment*.

The northern end of the Colstrip Alignment will connect to the existing BNSF Colstrip Subdivision just south of Colstrip, MT. The BNSF Colstrip Subdivision would connect TRRC's Colstrip Alignment to BNSF's Forsyth Subdivision at Nichols Wye, from which location trains can move either eastbound or westbound on the Forsyth Subdivision. Apart from an occasional local train, the existing BNSF Colstrip Subdivision is not used for regular train service today. Thus, the operation on that Subdivision of trains originating or terminating on the TRRC Colstrip Alignment will not result in any train conflicts or otherwise overburden the Colstrip Subdivision line. The Colstrip Subdivision and the Nichols Wye will, however, require some upgrading to meet current main line standards for track handling unit trains of coal. Such upgrades will be made before TRRC-originating unit coal trains will use the line.

The proposed Colstrip Alignment rail line follows a route that is very similar to the Colstrip Alternative analyzed previously in the TRRC I proceeding.³ From the connection point with the existing BNSF Colstrip Subdivision south of Colstrip, the new line would head generally southeast, crossing and paralleling existing State and County roads to the Tongue River valley at a point about nine miles north of Ashland. From there, the line would turn generally south and east of Ashland and then split into two branches just south of Ashland with two end points described above – Terminus Point 1 and Terminus Point 2. The primary difference between the Colstrip Alignment now being proposed and the Colstrip route considered previously in the TRRC I case is that approximately five miles of the Alignment would now parallel Greenleaf Road (S-447) prior to reaching the Tongue River valley, rather than following Roe & Cooper Creek. By taking advantage of the existing Greenleaf Road corridor, as opposed to creating a new corridor for that approximate five mile distance, it is anticipated that there will

³ The TRRC I proceeding is Finance Docket No. 30186, *Tongue River R.R. – Rail Construction and Operation – In Custer, Power River and Rosebud Counties, MT.*

be fewer adverse environmental impacts, including fewer disruptions to agricultural and ranching operations in the area.

From approximately nine miles north of Ashland to Terminus Points 1 and 2, the proposed Colstrip Alignment closely matches the alignment of the TRRC rail line previously approved by the ICC in 1986 in the TRRC I proceeding,⁴ except for some refinements now proposed to that portion of the line. Those refinements, which are the same as those proposed for the Ashland-Terminus Points 1 and 2 portion of the line in TRRC's October 16, 2012 application, are reflected in the alignment shown on the map attached in Exhibit C to TRRC's current application and are also reflected on the detailed aerial photos that are attached to this application as part of Exhibit C. The refinements generally entail a straightening and shortening of the rail alignment approved in 1986. Some of these refinements had previously been proposed by TRRC and were considered in the TRRC III proceeding.

II. There is a Public Need for the TRRC Line

The common carrier TRRC line as now proposed would serve the same public need as the line approved by the ICC in 1986. Specifically, the line will allow for the transportation of coal produced at the Otter Creek Mine that is planned for development by Otter Creek Coal, L.L.C., a subsidiary of Arch Coal, Inc. ("Arch"). It will also allow for the transportation of coal from other mines that may be developed in the Ashland area and other products that may be transported by any shippers that choose to utilize the line. Because the TRRC line will be operated as a common carrier line, TRRC will hold itself out to transport freight for any shipper that locates on the line and makes a reasonable request for rail service, just as BNSF does.

⁴ Finance Docket No. 30186, *Tongue River R.R. – Rail Construction and Operation – In Custer, Power River and Rosebud Counties, MT* (ICC served May 9, 1986) (hereafter "1986 Decision").

The rail transportation of coal produced at the Otter Creek Mine and other mines that may be developed in the area would no less serve the public convenience and necessity than do the numerous rail lines that serve existing coal mines in other portions of the Powder River Basin today. Such transportation is critical to meeting energy needs, to the financial health of the coal industry and to the economy of eastern Montana. In fact, there is no viable alternative means of transporting coal in the volumes that will be produced at the Otter Creek mine, other than rail and no rail line other than the TRRC line will be capable of transporting the coal produced in the Otter Creek and Ashland areas of the Northern Powder River Basin. The transportation need for the TRRC line is thus obvious, and verified by the decisions of TRRC's owners, including BNSF and Arch, to invest in the development of this rail line.

The State of Montana has already demonstrated its commitment to the development of the substantial coal resource at Otter Creek through its decision to lease the Otter Creek tracts to an affiliate of Arch. The lease payments and other income that the State will earn from the development of the coal resource will result in large payments to the State that will enhance the State's ability to fund important public needs.

Moreover, Arch's actions in taking important steps to seek a permit for the Otter Creek mine underscore its belief that there is a market for the coal to be mined at that site. There are approximately 1.5 billion tons of low sulfur, sub-bituminous coal located in the Otter Creek area, making it one of the largest undeveloped coal fields in the United States. There are several billion tons of coal overall in the Ashland area. For that reason, TRRC is proposing to build its line not only to Otter Creek, but also to Terminus Point 1, so that TRRC will be positioned to transport coal that may be mined in the Ashland area.

Coal remains an important energy resource and its role in that regard will remain vital for years to come. Accordingly, the owners of TRRC, which include BNSF and Arch, are prepared to make a significant financial investment in the TRRC line to complement the investment that Arch is making in the development of the Otter Creek mine. These investments underscore the need for the TRRC line and for the coal that would be transported on the line.

III. Colstrip Alignment Has Environmental, Economic and Operating Advantages Over Rail Line Approved by ICC in 1986

I describe below some of the environmental, economic and operating benefits that will result from constructing the TRRC line along the Colstrip Alignment rather than along an alignment between Miles City and Terminus Points 1 and 2, as approved by the Interstate Commerce Commission ("ICC") in 1986.

A. Environmental Advantages

The Colstrip Alignment will be approximately 46 miles shorter than the route previously approved by the ICC in the TRRC I proceeding. As a result, the Colstrip Alignment will require fewer acres of land to be acquired for the railroad right-of-way and, consequently, fewer acres of vegetation and wildlife habitat will be lost if the Colstrip Alignment is constructed in lieu of the rail line approved in 1986.

The Colstrip Alignment also has the advantage over the previously approved route of following existing corridors. Moreover, the Colstrip Alignment has the environmental advantage over other routings considered previously in TRRC I of reducing the number of railroad miles traversing the Tongue River valley. Heading south from its northern terminus at the existing BNSF Colstrip Subdivision south of the town of Colstrip, the Alignment would enter the Tongue River valley near the point where Greenleaf Road intersects with Tongue River Road, and traverse the valley for a distance of only about 17 miles to Terminus Point 1. Thus, potential

impacts to the valley and to the Tongue River, including water quality impacts, very likely would be reduced relative to the Miles City route.

Further, the modifications proposed to the portion of the Colstrip Alignment that was previously approved by the ICC in 1986 (the portion south of the Greenleaf Road area) locates the line further west of the Tongue River and, as a result, impacts to the river valley will be reduced.

Moreover, unlike the previously approved route, the Colstrip Alignment also completely avoids the Miles City Fish Hatchery and the United States Department of Agriculture's Livestock and Range Research Station ("LARKS") facility. It also eliminates the need for a new crossing of Interstate Highway 94.

B. Economic and Operating Advantages

Operations over the Colstrip Alignment will not require a different number of locomotives than would be the case for any of the other alternatives being considered in the TRRC I proceeding. Further, the Colstrip Alignment will be designed to efficiently handle unit trains of coal.

The Colstrip Alignment will require longer operations against ruling grade (about 12 miles) as opposed to the other alternatives previously considered in the TRRC I proceeding and the modified version of that Miles City route identified in TRRC's October 16 filing. However, the overall shorter distance of the combined Colstrip Alignment/existing BNSF Colstrip Subdivision routing between Otter Creek and the BNSF Forsyth Subdivision will offset to some extent the longer distance of such against-grade operations. Moreover, we have determined that transportation of unit coal trains along the Colstrip Alignment is operationally feasible. In fact,

the operating characteristics of the Colstrip Alignment are not markedly different from those of other lines operated by BNSF that haul coal unit trains.

For Otter Creek/Ashland coal traffic heading westbound, the Colstrip Alignment's general northwest/southeast orientation offers a reduction in the total mileage from origin to ultimate destination for the coal, eliminating approximately 50 miles that the traffic would otherwise have to travel on the existing BNSF Forsyth Subdivision if that traffic entered that Subdivision at or near Miles City as it would under the other alignments previously considered. Eastbound coal traffic would ultimately travel about 38 miles farther under the Colstrip Alignment to reach Miles City, as opposed to the other routes previously considered.

The proposed modifications to the portion of the Colstrip Alignment in the Tongue River valley and along the Otter Creek spur, *i.e.*, the portion of the line south of Greenleaf Road that was previously approved by the ICC, are designed to straighten the line and thereby improve the efficiency of coal unit train operations. This will result in fuel usage, operational cost and maintenance cost benefits relative to the somewhat curvier line previously approved.


TRRC will finance the construction of the line through equity contributions by some or all of the members of its parent company, Tongue River Holding Company, LLC, or through long-term debt guaranteed by some or all of those members, or through some combination thereof. Due to its shorter length, the cost of constructing the Colstrip Alignment is expected to be meaningfully lower than the cost of constructing any of the proposed alignments through Miles City and well within the ability of the funding parties. The projected construction cost is \$416 million and detail on this cost is provided in Appendix B to the Application.

Further, our projections show that, based on payments made to it by the operator (BNSF) and anticipated expenses, TRRC will be financially viable, as indicated in Exhibit G to the

Application It is planned that the operator will pay the maintenance and insurance costs of the line, and that TRRC's primary expenses will consist of depreciation, property taxes and various administrative expenses

VERIFICATION

I, Stevan B Bobb, hereby verify under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my knowledge and belief.



Stevan B Bobb

Dated this 14 day of December, 2012

VERIFIED STATEMENT OF
WILLIAM M. ROWLANDS

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

Finance Docket No. 30186

**TONGUE RIVER RAILROAD COMPANY, INC. – RAIL CONSTRUCTION
AND OPERATION – IN CUSTER, POWDER RIVER AND
ROSEBUD COUNTIES, MT**

**VERIFIED STATEMENT OF
WILLIAM M. ROWLANDS**

My name is William M. Rowlands. I am President of Otter Creek Coal, LLC ("Otter Creek Coal"), an operating subsidiary of Arch Coal Inc. ("Arch Coal") and an affiliate of Ark Land Company ("Ark"). I have been an employee of several Arch Coal operating subsidiaries across the United States with duties relating to engineering, operations and management including Mingo Logan Coal Company in West Virginia, Cumberland River Coal Company in Kentucky and Virginia and Thunder Basin Coal Company in Wyoming. I am a graduate of West Virginia Institute of Technology with a B.S. degree in civil engineering.

My responsibilities at Otter Creek Coal include the day to day operation and development of the Otter Creek Mine, a greenfield coal mining project to be located in Powder River County, Montana. In that capacity, I have been responsible for developing the operation since its inception including investigation and quantification of the coal reserves, preparation of the applications for various permits related to the Otter Creek Mine including the mining permit, and interaction with the community and governmental agencies with respect to the development of the Otter Creek Mine. Based on my work experience, I am knowledgeable about the coal

reserves in Powder River County, Montana, including those in the Otter Creek area, about Ark's lease of coal tracts in Otter Creek, Montana, and about Otter Creek Coal's plans to develop the coal tracts in the Otter Creek area

I. Coal Reserves in Powder River County, Montana

The coal reserves in Powder River County, Montana making up the Otter Creek Tracts are owned in a "checkerboard" configuration by Great Northern Properties Limited Partnership ("GNP") and the State of Montana which together comprise a generally contiguous 1.5 billion ton coal reserve consisting of low sulfur, sub-bituminous coal. Construction of the Tongue River Railroad rail line will provide, for the first time, rail service to one of the largest remaining undeveloped reserves of low sulfur, sub-bituminous coal in the United States.

In November 2009, Ark leased the coal reserves in Powder River County, Montana that are owned by GNP. In March 2010, Ark leased from the State of Montana the remaining coal reserves in Powder River County, Montana. Together, the Powder River County coal reserves leased by Ark are commonly referred to as "Otter Creek Tracts." Otter Creek Coal, which as I have noted is an indirect, wholly owned subsidiary of Arch Coal and an affiliate of Ark, will develop the Otter Creek Mine and mine the coal in the Otter Creek Tracts.

II Otter Creek Coal's Plan to Develop Otter Creek Tracts

Otter Creek Coal has already sought and obtained a prospecting permit from the Montana Department of Environmental Quality ("MDEQ") for the Otter Creek area. On July 26, 2012, Otter Creek Coal filed a mine permit application with MDEQ seeking authority to construct and operate the Otter Creek Mine, a planned combination dragline/truck shovel surface coal mine that will be located in the Otter Creek Tracts near the southern end of Otter Creek Spur (Terminus Point 2) of the Tongue River rail line. The permit requests authority to develop a

mine that would cover approximately 7,600 acres in the Otter Creek area. Before the permit application can be acted upon by the MDEQ, that agency will undertake an environmental review under the Montana Environmental Protection Act. The Otter Creek Mine will transload coal to unit trains on the Tongue River Railroad via a projected rail spur/coal silo configuration located along a rail loop at Terminus Point 2 of the Tongue River rail line. The rail loop at the mine will be designed to accommodate 150-car unit trains.

Assuming that Otter Creek Coal is granted a mine permit, including all supplemental and ancillary required permits, we estimate that it will take approximately two and a half years to complete the construction of the Otter Creek Mine. Based on a myriad of factors including, without limitation, market conditions and general business considerations, our best estimate is that the Otter Creek Mine could be constructed and ready to produce coal in January 2017.

The Otter Creek Mine is expected to ramp up to its annual full production level of approximately 20 million tons of coal after two years of production. In the first year of production, we expect the Otter Creek Mine to produce a pro-rated amount of 12 million tons of coal. In the second year of production, we expect the mine to produce approximately 16 million tons of coal. Thereafter, in the third and subsequent years of operation, we expect the Otter Creek Mine to produce 20 million tons of coal annually, although actual production may vary considerably depending upon market conditions and/or other business considerations. Based upon the projected rate of production and estimated coal reserves in the planned mining area of 330 million tons, the Otter Creek Mine should allow for nearly 20 years of mineable coal production.

According to a study prepared by the University of Montana's Bureau of Business & Economic Research entitled "The Impact of Otter Creek Coal Development on the Montana

Economy,” the development of Otter Creek coal and the TRRC line will bring significant economic benefits to Montana. *See* Appendix D to the Application. These benefits include the creation of more than 2,600 jobs during construction of the mine and railroad, and more than 1,700 new permanent jobs during operations of the mine. The jobs will not only result from direct employment by the mine and railroad, but would also be created in the retail, health care, construction, government and health care sectors, among others. The Study also concluded that the development would increase Montana personal income by more than \$100 million during construction of the mine and railroad, and by more than \$125 million per year during mine operations. The coal mine development also will generate substantial tax revenues for the State of Montana.

III. Potential Markets for Otter Creek Coal

Because the Otter Creek Mine coal will not be developed for several years pending the permitting process and other regulatory and operational hurdles, it is not possible to predict at this time where the coal will be delivered after production commences. However, there are various potential markets generally identified for the Otter Creek coal. We believe that the Otter Creek Mine project “will help [Arch] competitively serve US power producers, supply additional coal for export to emerging Asia or possibly house the site of a future coal-conversion facility.” *See* March 18, 2010 Arch Coal press release titled “Arch Coal Secures State-Controlled Otter Creek Coal Reserves in Montana” (included as Attachment 1). In other words, the coal could move east or west for domestic use or export.

VERIFICATION

I, William M Rowlands, hereby verify under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my knowledge and belief.


William M Rowlands

Dated this 13th day of December, 2012

Arch Coal Secures State-Controlled Otter Creek Coal Reserves in Montana

March 18, 2010 2:22 PM ET

ST. LOUIS, March 18, 2010 -- Arch Coal, Inc. (NYSE: ACT) today announced that it was the successful bidder for a state coal lease known as the Otter Creek Tracts located in southeastern Montana. Arch made a one-time bonus bid for the lease of \$85.8 million, payable in April 2010. The coal lease will give Arch the right to mine approximately 8,300 acres of state-owned minerals. Arch now controls approximately 1.5 billion tons of coal in Montana's Otter Creek area, including previous reserve additions such as the coal lease secured in November 2009 through Great Northern Properties Limited.

"We view the combined Otter Creek coal reserves as a strategic platform for future growth in the Northern Powder River Basin," said Steven F. Leer, Arch's chairman and chief executive officer. "The addition of the Montana state reserves further expands and strengthens our position while affording us greater flexibility in future site development. As previously stated, we believe these Northern PRB reserves will help us competitively serve U.S. power producers, supply additional coal for export to emerging Asia or possibly house the site of a future coal-conversion facility."

St. Louis-based Arch Coal is the second largest U.S. coal producer. Through its national network of mines, Arch supplies cleaner-burning, low-sulfur coal to U.S. power producers to fuel roughly 8 percent of the nation's electricity. The company also ships coal to domestic and international steel manufacturers as well as international power producers.

Forward-Looking Statements: *This press release contains "forward-looking statements" - that is, statements related to future, not past, events. In this context, forward-looking statements often address our expected future business and financial performance, and often contain words such as "expects," "anticipates," "intends," "plans," "believes," "seeks," or "will." Forward-looking statements by their nature address matters that are, to different degrees, uncertain. For us, particular uncertainties arise from changes in the demand for our coal by the domestic electric generation industry; from legislation and regulations relating to the Clean Air Act and other environmental initiatives; from operational, geological, permit, labor and weather-related factors; from fluctuations in the amount of cash we generate from operations; from future integration of acquired businesses; and from numerous other matters of national, regional and global scale, including those of a political, economic, business, competitive or regulatory nature. These uncertainties may cause our actual future results to be materially different than those expressed in our forward-looking statements. We do not undertake to update our forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required by law. For a description of some of the risks and uncertainties that may affect our future results, you should see the risk factors described from time to time in the reports we file with the Securities and Exchange Commission.*

APPENDIX B

Appendix B

Estimated Tongue River Railroad Construction Costs

Colstrip to Terminus Point 2 (34.6 miles) and Terminus Point 1 (7.5 miles)

	Grading & Bridge Construction	Track Construction	Signal & Communications Construction	Total
Construction Year 1	\$169,200,000	\$0	\$0	\$169,200,000
Construction Year 2	\$169,200,000	\$31,000,000	\$7,900,000	\$208,100,000
Construction Year 3	\$0	\$31,000,000	\$7,900,000	\$38,900,000
Total	\$338,400,000	\$62,000,000	\$15,800,000	\$416,200,000

Note All costs shown above are in 2013 dollars and not adjusted for inflation

APPENDIX C



MONTANA COAL COUNCIL

2301 COLONIAL DRIVE • HELENA, MONTANA 59601
(406) 442-6223 • FAX: (406) 449-6628 • EMAIL: MTCOAL@AOL.COM

August 7, 2012

Chairman Daniel R. Elliot
Surface Transportation Board
395 E Street SW
Washington, DC 20423

RE: Tongue River Railroad, Finance Docket 30186

Chairman Elliot:

The Montana Coal Council is an industry trade association representing all six of Montana's operating coal mines, a handful of major coal reserve holders, numerous coal consuming customers, and over 50 major suppliers of goods and services. Collectively we represent 1208 direct employees and nearly 10,000 indirect. Needless to say, the coal industry is a huge economic engine in the state of Montana. The six operating mines alone paid \$118,363,376 in state, local and federal taxes in 2011. Continuance of that level of economic activity hinges on expansion and replacement of depleting permitted coal reserves. Consequently the development of new coal mines and the associated necessary transportation systems is paramount to Montana's economic future.

The Tongue River Railroad project is a key component to the economic prosperity of Montana, and southeastern Montana in particular. This project will open up hundreds of employment opportunities for Montana residents and skilled labor from around the country. In addition to the employment opportunities, the tax revenues provide benefits to residents in all corners of the state. Furthermore, various pollings have indicated that Montanans overwhelmingly support expanded coal mining in Montana (nearly 75%). A recent report by the University of Montana Bureau of Business and Economic Research quantifies that 2600 jobs will be created by development of the Otter Creek Coal mine and the associated Tongue River Railroad. Collectively this development would add 1740 permanent jobs and increase the tax base by over \$100 million annually! That is an incredible shot in the arm for Montana economics.

We have every reason to have confidence in the ability of the companies involved to fulfill all their regulatory requirements and carry out their activities as good corporate citizens. We urge your approval of the TRRC's filing.

Respectfully,

Bud Clinch, Executive Director
Montana Coal Council



Chamber of Commerce

Your Business Advocate Since 1931

August 1, 2012

Chairman Daniel R. Elliot
Surface Transportation Board
395 E Street SW
Washington, DC 20423

RE Revised Application for Construction of the Tongue River Railroad, Finance Docket 30186

Chairman Elliot:

For over 80 years, the Montana Chamber has been the state's leading advocate for business, economic development and job creation. Our mission focuses on growth of the private sector through free enterprise, responsible stewardship of the land, and private investment. The revised application for the construction of the Tongue River Railroad is very much in line with the Montana Chamber's mission, and it will be a huge economic benefit to our state.

Montana would not exist without railroads. With our expansive borders and sparse population, we grow and extract much more than we can ever consume, which necessitates affordable, reliable and fast transportation means. These essential transportation arteries allow farmers, ranchers and business to move their goods to larger markets.

The railroads have also been important to Montana's role in being an energy leader for our country and the world. We have some of the largest coal reserves on the globe, and most of it sits in very remote areas of the state. New mines, such as the proposed Otter Creek coal mine, cannot come online without a rail line. The proposal contained in the Tongue River Railroad's revised application will help get these new mines up and running and will allow the coal to be transported to market.

Montanans are anxious to see Montana's large coal reserves developed. They know that increased coal development will mean more good-paying jobs, more money for schools and government programs, and a smaller tax burden on individual taxpayers. They also believe this can all be done without having harmful impacts on the land where they live and recreate. According to our annual poll of Montana likely voters (600 respondents, 4.1% margin of error), more than three-quarters of Montanans want government to promote more mining of coal.

As the "Treasure State," Montana has huge potential in being a part of energy solutions for the future. The Tongue River Railroad is an essential part of that future, and we urge the Surface Transportation Board to expeditiously approve the revised application of the Tongue River Railroad. Montanans are anxious to get more people to work and see the economic benefits of these new projects.

Please feel free to contact us if you would like to know more about the economic benefits of the project and the support for these projects in the business community and among regular Montanans.

Sincerely,

Webb Scott Brown
President/CEO
Montana Chamber of Commerce
webb@montanachamber.com



WESTERN ENVIRONMENTAL TRADE ASSOCIATION

2301 Cooney Drive, Suite 101, Helena, MT 59602

406-443-5541

weta@weta-montana.org

www.weta-montana.org

November 30, 2012

Chairman Daniel R. Elliot
Surface Transportation Board
395 E Street SW
Washington, DC 20423

Re: Tongue River Railroad, Finance Docket 30186

Chairman Elliot:

The membership of the Western Environmental Trade Association (WETA) strongly supports the Tongue River Railroad Company's (TRRC) efforts to construct a rail line in the Ashland/Otter Creek mine area.

WETA is one of Montana's largest and most diverse natural resource industry advocates—representing 100 industries, trade unions, small businesses and support services involved in coal and hard rock mining, agriculture, timber and wood products, construction, manufacturing, transportation, electricity generation and transmission, oil and gas exploration and production and recreation. We promote responsible natural resource development and reasonable environmental regulation in Montana and strive to help create opportunities for natural resource-based job growth and economic development.

The Tongue River Railroad project is a key component to the economic well being of the State of Montana—and in particular—its southeast region. This part of the state has experienced very difficult economic challenges and population decline for a generation. The vast majority of people remaining in southeast Montana strongly support development of the Tongue River Railroad and the coal resources it would transport from the proposed Otter Creek Mine. This project has the potential to significantly improve the quality of life for thousands of southeast Montana residents and provide benefits to the rest of the state as well.

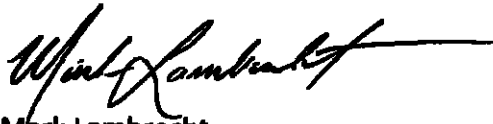
A recent study completed by the University of Montana Bureau of Business and Economic Research concluded construction of the Tongue River Railroad and the Otter Creek Coal Mine would create over a billion dollars of demand for rail transport annually. The two projects

would also create over 2,600 construction jobs, 1,740 permanent jobs and over \$100 million in annual tax revenue. Montana's working families, communities and public schools will all greatly benefit from the railroad and mine and deserve a fair and expedient evaluation so construction can begin promptly.

WETA has every confidence that TRRC can demonstrate that the routing proposed for its rail line is essential for connecting coal resources in southeast Montana to the interstate rail network and that it can be developed with minimal disruption.

Please expedite approval of the TRRC's filing as soon as possible.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Lambrecht", with a long horizontal flourish extending to the right.

Mark Lambrecht
Executive Director

APPENDIX D

The Impact of Otter Creek Coal Development on the Montana Economy

Patrick M. Barkey, Director
Paul E. Polzin, Emeritus Director
Bureau of Business & Economic Research
The University of Montana



Acknowledgements

This report was produced and authored by Patrick Barkey and Paul Polzin, director and ementus director, respectively, of The University of Montana Bureau of Business and Economic Research. The research was supported by The Montana Contractors Association. The authors of this study would like to acknowledge the cooperation and support from Otter Creek Coal, LLC as well and BNSF Railway who provided helpful information for this report. All errors and omissions are, of course, our own.

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0. Executive Summary

This is a study of the effects on the Montana economy of the development of Otter Creek coal in southeastern Montana. As described below, the Bureau of Business and Economic Research at The University of Montana, using a state-of-the-art policy analysis model and publicly available data describing the timing and type of investments involved, produced a detailed assessment of the ultimate impact of coal development and operations -- including the construction and operations of the railroad -- on employment, income, output, and population in the Montana economy.

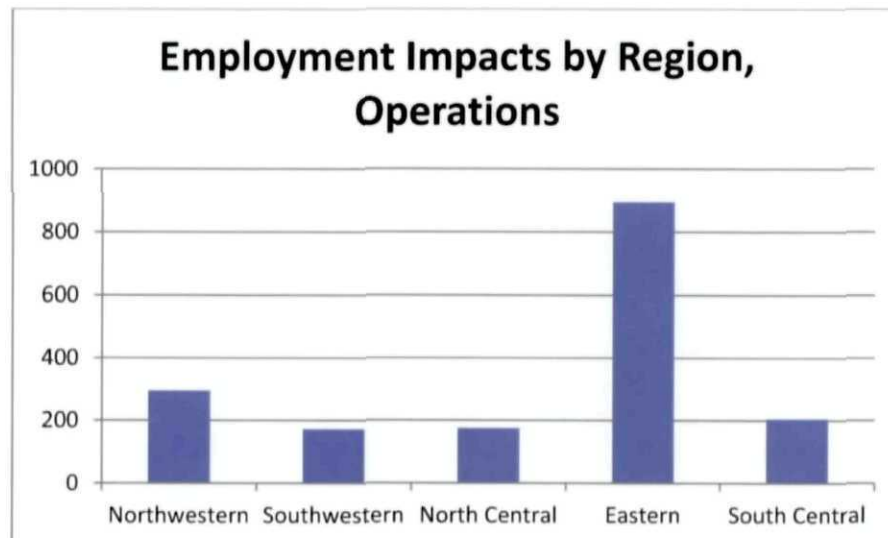
Impacts Summary

Category	Impacts by Phase	
	Construction	Operations
Total Employment	2,648 Jobs	1,740 Jobs
Private Sector	2,372 Jobs	1,338 Jobs
Personal Income	\$103.5 million	\$125.4 million
Disposable Personal Income	\$87.7 million	\$167.9 million
Population	1,025 people	2,843 people
State tax revenues	\$23.5 million	\$91.6 million

This study finds that with the Otter Creek coal development the state economy would be significantly larger, more prosperous, and more populous than would otherwise be the case. Specifically, we find that as a result of the development of the first of the three Otter Creek tracts, ultimately producing 20 million tons of coal, that:

- 2,648 jobs would be created during the peak year of the construction phase as the mine facilities and the railroad are built, with most new jobs created in eastern Montana;
- The impacts on income received by Montana households would be similarly substantial, with \$103.5 million of new personal income and \$87.7 million in after-tax income occurring during the peak construction year statewide. In eastern Montana, total household earnings would increase more than 8 percent;
- As a result of the continuing operations of the mine, 1,740 new permanent, year-round jobs would be created in the Montana economy, increasing household income by \$125.4 million per year;
- Job increases would occur across a wide spectrum of industries, and, largely due to rail operations, in most regions of the state;
- Overall state population would be almost 2,850 higher and school-aged population more than 560 higher due to the operations of the mine.

- Mine operations would increase state and local tax revenue by more than \$91 million per year due to both coal-specific taxes as well as growth in the overall base for Montana's other taxes.



Background and Overview

The University of Montana Bureau of Business and Economic Research at (BBER) was engaged by the Montana Contractors' Association to conduct an empirical study of how the development of the Otter Creek coal tracts in southeastern Montana would impact the economy of the state. Specifically, the BBER was tasked with (i) developing and detailing a scenario of coal development in Otter Creek, including land preparation, building, and other infrastructure preparation, and transportation improvements, including rail, (ii) developing a scenario of ongoing coal production from a new mine that reflected the capacity of the tracts, the likely limitations of a mining permit, and the conditions of the global coal marketplace, and (iii) incorporating these scenarios into an economic impact model which would fully describe how the state economy (and its subregions) would evolve should these events take place. This report presents the findings of this analysis.

This study asks and answers a simple question: How would be economies of Montana and it sub-regions react if Otter Creek coal development takes place? To address this question, we construct two future economic scenarios – a baseline, no development scenario and a coal development scenario. The difference between these two alternative futures – in the number of jobs, the dollars of income, and the number of people who live in Montana -- is the ultimate impact of the development of coal.

The coal development scenario incorporated into this study was independently developed by the BBER using publicly available information from public filings, historical

data, and the information available on other mining projects. The scenario is broadly consistent with the expected scale of the project and what is economically and operationally feasible. Thus, the results reported here are representative of how the investments and operations associated with the coal (and railroad) development will affect statewide growth.

Research Overview

The core question posed by this study is: What would the Montana economy look like if Otter Creek coal development takes place? The question essentially involves analyzing two different futures for the Montana economy: the status quo, no-investment scenario where development does not occur and a coal development scenario which includes mining, transportation, and other associated infrastructure. The latter represents a stimulus which can set off other actions and reactions in the economy.

There are three essential components to estimating the ultimate impact of new investment. These are:

- the *direct impact* (e.g., spending) the investment itself represents,
- the *indirect impacts*, which are the spending of other entities (e.g., the railroad) which are carried out by others because of the original investments, and
- the *induced impacts* that occur as the spending represented by the direct and indirect impacts propagates through the economy

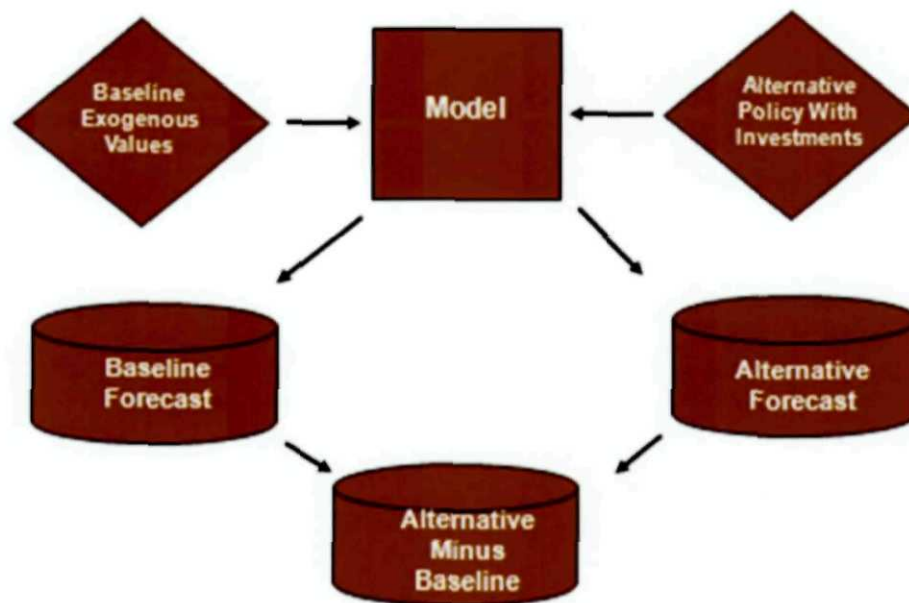
Likewise there are two different stages of any project involving significant infrastructure development.

- the *permitting and construction phase* - a one-time boost in spending and investment -- that occurs in the beginning of a project -- to plan and build infrastructure, facilities and, buildings, and
- the *operations phase* - commencing when construction is complete and ongoing operations can begin. The operations phase continues for the life of the project.

Although the precise timetable and scale of the investments that could take place as part of development of the Otter Creek coal tracts are not yet known, reasonable scenarios can be constructed based on development of similar coal seams elsewhere. This study has carefully constructed a development scenario that faithfully represents the major investments that would have to take place to develop and produce Otter Creek coal. The induced impacts, which take place as wage, vendor, and other payments are captured by Montana businesses and households and are spent again in the state and local economies, are estimated using BBER's five-region economic impact model.

To quantify the impacts of events that influence the Montana economy, the BBER uses a mathematical model of the regional economy leased from Regional Economic Models, Inc. (REMI). The fundamental premise of the REMI model is that regions compete for investment, jobs, and people. Thus, when new events occur which change the competitiveness of one particular region – such as construction and development of mining operations – investment, employment, and demographic flows in and out of the region can be affected, ultimately producing new levels of economic activities. The model thus produces impact estimates by examining the economy before and after these new events take place.

The total contribution of Otter Creek development to the economy is the difference between these two scenarios, as shown diagrammatically in the figure below. The model is a means of estimating the economy's new "resting point," which includes the changes in investment, employment, and spending that are induced by the project.



The Direct and Indirect Economic Contribution of Otter Creek Coal

The first step in the analysis is to specify the timing and the extent of spending by Arch Coal on developing the mine. Before a shovel full of Otter Creek coal can be mined, a number of regulatory, engineering, and logistical tasks must be carried out. The construction of all of the infrastructure of the mine, including land preparation, road, rail, and power distribution construction, equipment acquisition, construction of buildings and on-site processing facilities, and, finally, the excavation of the initial overburden, will take approximately two years at a cost of about \$600 million.

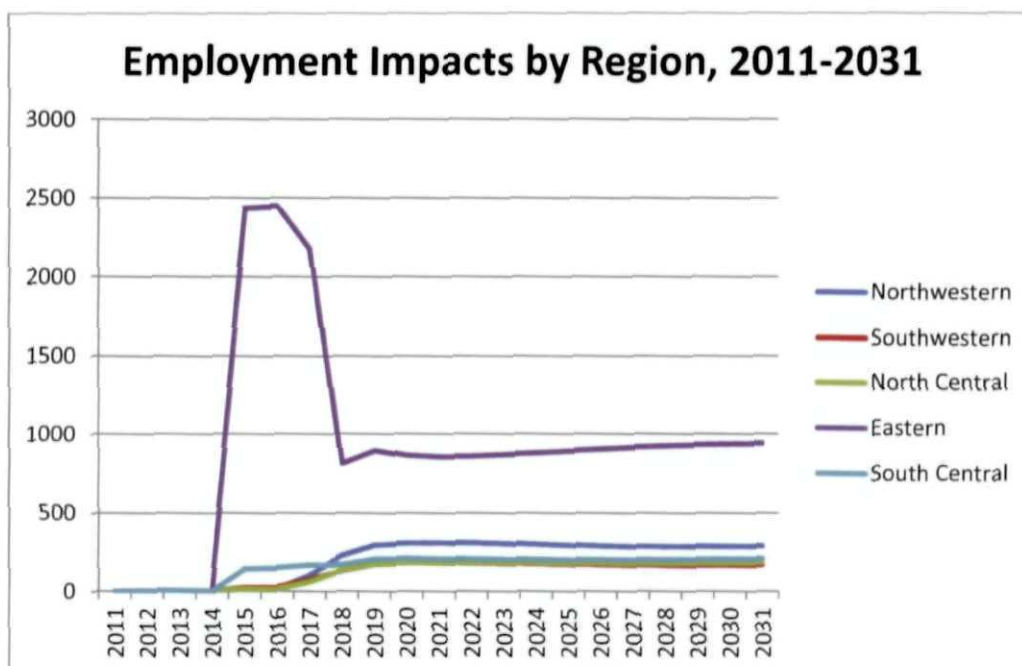
It is anticipated that when construction is completed that the Otter Creek mine will produce 20 million tons of coal annually, with approximately 300 full-time employees, plus an additional 50 contractors. We expect that the mine mouth value of this coal will be \$14 per ton. We anticipate that the dominant market for this coal will be Asia, with coal shipped by rail to the (new and existing) Pacific northwest coal ports. Significant domestic customers are expected as well.

The development of the railroad represents by far the most significant indirect impact of mine development. While transporting coal by truck is possible, the economic competitiveness of the mine depends critically on access to the rail transportation network. Coincident with mine construction, we envision a new 89-mile rail spur north to connect to the main BNSF line near Miles City at a cost of about \$472 million. When operational, new and existing rail links – including those owned by both BNSF and Montana Rail Link (MRL) – within Montana will see approximately \$340 million in new demand for rail transportation services due to mining operations.

The Economic Impact of Otter Creek Coal

The substantial amount of spending and production occurring in both the construction and operations phases of this project represents a tremendous new injection of revenue and income for Montana businesses and households. This sets off new investment, employment, and demographic flows as secondary jobs and income are created. The investment ultimately produces a new level of economic activity, with jobs and incomes affected across the spectrum of the economy. The difference between this new level of activity and the status quo projection represents the total economic impact of Otter Creek coal.

We can measure how Otter Creek direct and indirect impacts propagate through the Montana economy with the REMI model. Comparing the trajectory of the economy with and without coal development yields an estimate of the impact of Otter Creek over the next 20 years. As can be seen from the employment impacts graphed below, with the tremendous activity in the construction phase of the project, the impacts of the project in the beginning of the project are outsized, especially in the eastern Montana region. When the construction is complete and mining operations commence, the job impacts remain significant, growing slightly over the span of the next two decades.



Since the investment and spending patterns in the construction and operations phases of the project are distinct, we present the findings of the analysis for the two phases separately. In the discussion that follows, we define the construction phase impacts as the total impacts that occur in year 2016, the peak year. The operations impacts are defined as the impacts occurring in year 2019, when all construction impacts are finished. All dollar figures are inflation-corrected, expressed in terms of 2012 dollars.

Employment Impacts

The wide footprint of the mine's economic impacts can be seen very clearly from the distribution of new jobs by industry, shown in the table below. As would be expected, the majority of jobs in the construction phase are construction industry jobs, and in the operations phase a large number of new mining jobs are created. But in each phase there are significant ripple effects on other sectors of the economy. These include retail trade, health care, accommodations and food, and local government. The increases come about through a variety of mechanisms – some industries benefit directly from worker spending, some are due to other businesses related through the supply chain, still others come about because of population increases as people migrate to the state because of the new jobs.

The analysis shows that mine and other associated construction supports almost 2,650 new jobs statewide, and that mine operations creates more than 1,700 new permanent jobs in the Montana economy.

Employment Impacts

Industry	Job Impacts by Phase	
	Construction	Operations
Forestry, Fishing, Related Activities, and Other	0	0
Mining	(3)	346
Utilities	0	6
Construction	1,948	79
Manufacturing	4	3
Wholesale Trade	41	66
Retail Trade	129	235
Transportation and Warehousing	0	51
Information	1	3
Finance and Insurance	2	7
Real Estate and Rental and Leasing	12	45
Professional and Technical Services	30	44
Management of Companies and Enterprises	0	0
Administrative and Waste Services	25	43
Educational Services	1	7
Health Care and Social Assistance	69	165
Arts, Entertainment, and Recreation	5	20
Accommodation and Food Services	54	116
Other Services, except Public Administration	54	103
State Government	37	71
Local Government	240	331
TOTAL	2,648	1,740

Income Impacts

The impacts on Montanan's personal income as a result of Otter Creek coal investment stem from three separate mechanisms. First, income is created – both wage and salary income, as well as business proprietor income – as the new jobs described above are created. Secondly, as population increases due to increased Montana job opportunities, the total income of the state increases. The final way in which Otter Creek coal impacts after-tax income of Montanans has to do with the substantial tax

revenues paid by the mine. How these revenues would be dealt with by the Legislature is unknown. The conservative assumption made in this study is that the increased revenues allow the Legislature to fund the same amount of services with lower tax rates. These lower rates increase the after-tax income of Montana households.

As shown in the table below, the personal income impacts of Otter Creek development are substantial – amounting to \$103.5 million in the construction phase and \$125.4 million in permanent increases during mine operation. The increase in after-tax income during coal operations exceeds the pre-tax increase, amounting to a \$167.9 million increase in Montana household purchasing power every year the mine is in operation.

Personal Income Impact, Millions of Dollars

Category	Income Impacts by Phase	
	Construction	Operations
Total Earnings by Place of Work	\$123.0	\$119.4
Total Wage and Salary Disbursements	81.9	88.1
Supplements to Wages and Salaries	21.0	25.5
Employer contributions for employee pension and insurance funds	13.5	16.3
Employer contributions for government social insurance	7.5	9.2
Proprietors' income with inventory valuation and capital consumption adjustments	20.2	5.8
Less: Contributions for government social insurance	15.8	18.3
Employee and self-employed contributions for government social insurance	8.3	9.1
Employer contributions for government social insurance	7.5	9.2
Plus: Adjustment for residence*	-1.7	-1.2
Gross earnings flows into Montana	2.2	2.1
Gross earnings flows out of Montana	3.9	3.3
Equals: Net earnings by place of residence	105.6	99.9
Plus: Rent, interest, and dividends	5.8	19.0
Plus: Personal current transfer receipts	-7.8	6.6
Equals: Personal Income	103.5	125.4
Less: Personal current taxes	15.7	-42.4
Equals: Disposable personal income	87.7	167.9

* Total earnings data are derived from records of employers who are located in Montana. Since some Montana workers are employed by out-of-state firms, and some Montana firms employ workers from other states, the adjustment for residence nets out these two impacts to produce an estimate of Montana residents' income.

Other Impacts

Mine operations, as well as construction, also have other significant impacts on the Montana economy, including:

- significant increases in population, in both eastern Montana as well as the entire state, as workers migrate into the state and region in pursuit of economic opportunities;
- an increase in the school-aged population as younger workers bring their young (or yet to be born children) into the state;
- increases in local government, primarily in local public schools, in response to population changes caused by the mine development and operation;
- increases in state and local tax revenues due to both (i) severance and other special taxes levied on coal, and (ii) an increase in the base of Montana's other major taxes.

Summary and Conclusion

Through an analysis of the direct, indirect, and induced economic activity surrounding the development of Otter Creek coal, we find that the total economic contribution such an activity would make to the state economy to be substantial. The construction of the mine, the new railroad construction, and the other associated infrastructure represents a total investment approaching \$1 billion and is expected to create more than 2,600 construction jobs in the peak building year. The operations of the mine are expected to create more than 1,700 permanent jobs in the Montana economy and add almost \$168 million in after-tax income annually. Those jobs would benefit all regions of the state as well as a broad spectrum of public and private sector businesses.

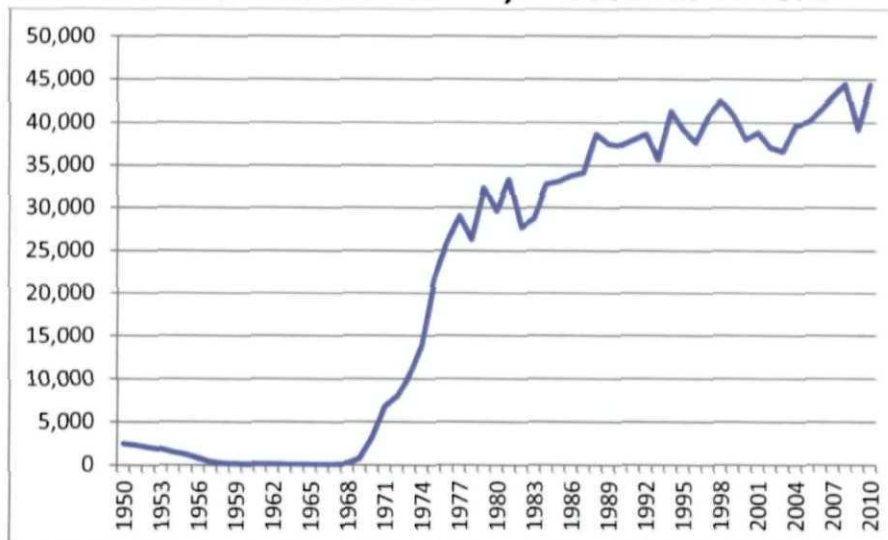
1. Background and Overview

1.1 Montana Coal: History and Prospects

Coal mining has a long history in Montana. In the age of steam, underground mines near Red Lodge, Roundup, and elsewhere supplied coal to railroads and the industrial facilities in the Butte-Anaconda area. In addition, numerous small underground and surface mines provided coal to local homes and businesses. By the 1960s, diesel locomotives and other energy sources reduced Montana coal production to practically zero.

Montana's current coal mining industry began with the Arab oil boycott of 1973 and the resulting energy crunch. There were numerous proposals to use Powder River Basin coal to produce synthetic natural gas and other fuels. In addition, the naturally low sulfur content of Powder River coal made it an attractive boiler fuel for electric utilities attempting to comply with newly formulated emission regulations. One federal study published in 1975 predicted that Montana coal production would be between 34 and 64 million tons in 1980 and from 39 to 153 million tons in 1985 (Northern Great Plains Resource Program, 1975, p. 40). A later federal-state study released in 1979 predicted Montana coal production would be 39.3 million tons in 1980 and 49.7 million tons in 1985 (U.S. Department of the Interior and Montana Department of State Lands, 1975, pp1-3).

Figure 1.1
Montana Coal Production, Thousands of Tons

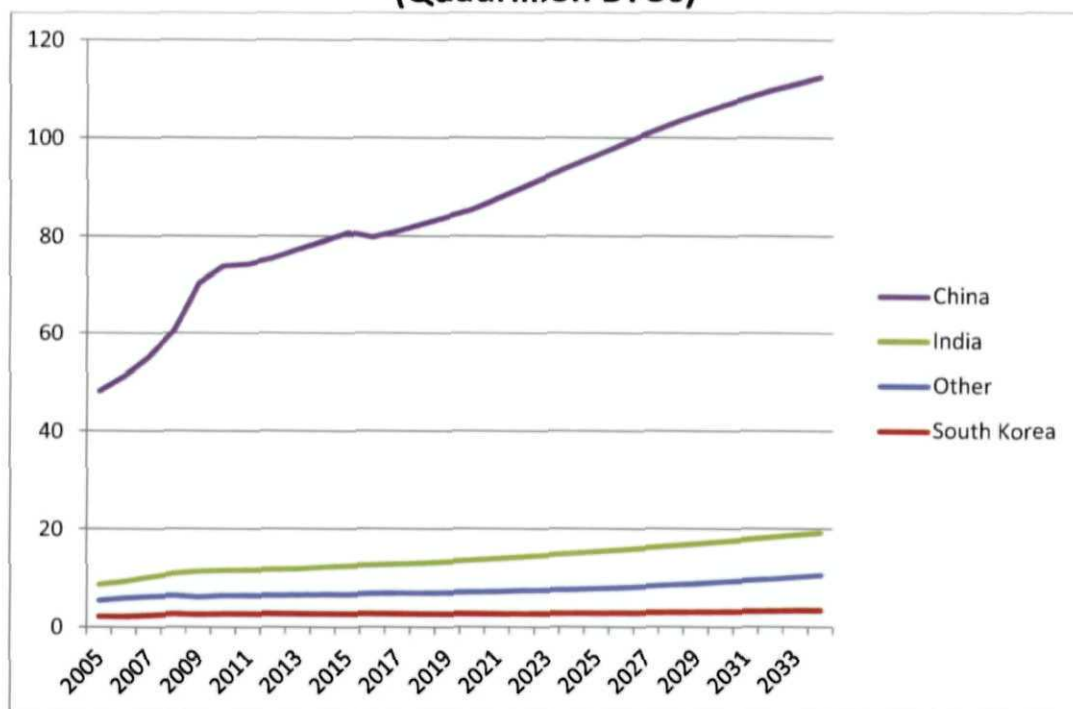


Source: Montana Coal Council.

The 1970s' forecasts for Montana production of the Powder River Basin were far too rosy. There were a number of reasons for this over-optimism. First, synthetic fuel production never materialized. Second, changes in federal emission regulations made low-sulfur coal less attractive. Third, Wyoming coal mines are closer via rail to large metro areas in the southeast and southern Midwest and they received the benefits of the fast urban growth. Finally, the nationwide demand for electricity moderated due to rising prices (Polzin, 1985).

Montana's coal production has been relatively stable over the last four decades. In 1981, about 33.3 million tons of coal was being produced at six large surface mines in eastern Montana. The more recent trends are pictured in Figure 1.1. Total Montana coal production has been between 40 and 45 million tons per year since 2000, with only a mild upward trend since the 1990s.

Figure 1.2
Actual and Predicted Asian Coal Demand
(Quadrillion BTUs)



Source: U.S. Energy Information Administration (EIA), International Energy Statistics database (www.eia.gov/ies, accessed November, 2011).

Since the 1970s' renewal, Montana coal has been primarily used to fire electrical generating plants and most is transported by train to cities in the northern Midwest. In

addition, significant amounts of coal are burned for electric generation near the mine site at Colstrip and small amounts are transported west toward the Pacific Northwest. Domestic markets are unlikely to provide significant growth for Montana coal. The overall production of U.S. coal has been stable or declining due increased environmental concerns about coal-fired electric generating plants.

The same is not true in Asia, especially Southeast Asia, where coal demand is mushrooming. As shown in Figure 1.2, the annual demand for coal in China and elsewhere in the region is projected to grow significantly between 2010 and 2035. The data in Figure 1.2 are measured in Btus rather than tons to correct for quality differences between different types of coal. To put this growth into perspective, the increase from 2010 to 2035 in China alone is more than twice the current U.S. production of coal. If this growth in Asian demand materializes, it would have some very favorable impacts on Montana. There is not sufficient capacity in Southeast Asia to satisfy this growth, so coal would have to be imported by boat from other places. There are currently only a couple of bulk loading facilities in the Northwest that can handle coal, and they are in British Columbia. But there are proposals for several more on the Washington and Oregon coast.

Figure 1.3
Major Rail Lines Serving Powder River Basin and Destination Markets



Source: BNSF Railway, System Map.

Figure 1.3 depicts the rail lines in the Northern Great Plains and Pacific Northwest along with Montana and Wyoming in the Powder River Basin. It takes only quick glance to see that the Montana coal fields are closer to Northwest ports than the Wyoming coal fields. The transportation situation may now be reversed. Just as Wyoming was in a favorable geographic position to serve the fast growth in the south and east, Montana is now better situated to serve these fast growing Asian markets.

1.2 Otter Creek Coal

In the mid-1990s the U.S. government bought property adjacent to Yellowstone National Park on which the mining company Noranda proposed to develop a gold mine, called the New World mine. Governor Marc Racicot, citing the revenue that would be lost to the state because the mine would not be developed, asked the federal government for compensation. The federal government offered Montana a choice: \$10 million, or the Otter Creek coal tracts located near Ashland in Powder River County. The State of Montana chose the coal.

The Otter Creek coal tracts have not yet been developed because they have a checkerboard ownership pattern. Great Northern Properties owns slightly more than half of the 1.3 billion tons of coal and the State of Montana owns the remainder. Montana invited bids for its coal in 2009. Arch Coal was chosen as the successful bidder. Since Arch Coal already leased the coal owned by Great Northern Properties, the checkerboard ownership problem no longer inhibits the development of these deposits.

The development phase for these tracts is just beginning and few specifics have been developed. Some preliminary work has begun as the Montana Department of Environmental Quality has determined that the Arch Coal's application to begin prospecting is administratively complete.

The state's 2009 appraisal of the tracts envisioned two surface mines each producing roughly 35 million tons per year. Projects of this scale would roughly triple Montana's coal production. Very conservatively, there would be at least 500 new mining jobs, which would place them among the largest industrial employers in the state. In addition, a new railroad would have to be constructed connecting the mines with the BNSF mainline to the north.

The new mines would be subject to administrative review before they could begin production. The mine operator would have to submit detailed operating and reclamation plans to the Montana Departments of Natural Resources and Conservation (DNRC) and Environmental Quality (EQC) for permitting review pursuant to the Montana Environmental Policy Act (MEPA).

1.3 The Impact of Coal Operations and Development

It is difficult to compare the economic contribution to the state economies coal mining makes in different states. Mining technology, the quality, quantity, and placement of coal seams, access to markets, and the vintage of equipment can all play a major role in productivity, production and impacts. But some studies carried out for coal mines in the western United States can at least frame the analysis. Studies of new developments for surface mining of other minerals can be relevant as well.

- A 2010 study conducted by the University of Utah found that the 24.3 million tons of coal mined annually from Utah employed 1,888 people, and that the operations induced an additional 2,815 jobs to be created in the state economy.
- A study of the new development of a proposed surface copper mine in Arizona conducted by Arizona State University in 2010 found that the project would generate about 3,600 jobs and \$152 million in personal income while under construction, with operations supporting about 2,100 jobs and \$143 million per year.
- A 2005 study conducted by the University of Wyoming of different production scenarios for Powder River Basin coal and natural gas in Wyoming found that a "low" production ramp up scenario that increased coal production by about 145 million tons per year contributed to an increase of about 12,500 jobs in a six-county region of the state.

All of these studies made use of the REMI model -- which we also employ in this study - to estimate economic impacts. These studies confirm that the development of coal and other surface mined mineral reserves represent large-scale projects with commensurate large economic impacts.

1.4 Report Overview

The remainder of this report proceeds as follows. In the next section we introduce the policy analysis model that is used in this study to estimate economic impacts of Otter Creek coal development, and describe the basic philosophy behind its construction. As we shall describe, the task of estimating economic impacts involves carefully assessing the direct investments and spending (direct impacts) of both the Otter Creek mine as well as the Tongue River railroad. This is carried out in the following two sections. Section 5 presents the results of the analysis, followed by conclusions in the last section.

2. Policy Analysis with the REMI Model

Economic impacts occur because of events or activities that create new expenditures. Spending which is new – which is over and above existing expenditures and does not simply displace spending elsewhere in the region – not only adds to economic activity in its own right, but it also induces further spending as the recipients of wages, sales and tax revenues spend a portion of their income in the local economy. Changes in the path of investment, migration, and prices and wages are possible as well.

The basic tool used in this study to assess the economic contribution of Otter Creek is an economic model, calibrated to represent the interactions in the Montana economy, leased from Regional Economic Models, Inc.. The REMI model is one of the best known and most respected analytical tools in the policy analysis arena and has been used in more than a hundred previous studies as well as dozens of peer-reviewed articles in scholarly journals. It is a state-of-the-art econometric forecasting model that incorporates dynamic feedbacks between economic and demographic variables. The REMI model forecasts employment, income, expenditures and populations for counties and regions based on a model containing over 100 stochastic and dynamic relationships as well as a number of identities. A full explanation of the design and operation of the model can be found in Treyz (1988).

The model used in this study disaggregated the state economy into five regions: Northwest, Southwest, North Central, South Central, and Eastern. It explicitly recognizes trade flows that exist between these regions, as well as between the regions and the rest of the world. The definition of the regions is shown in Figure 2.1 below.

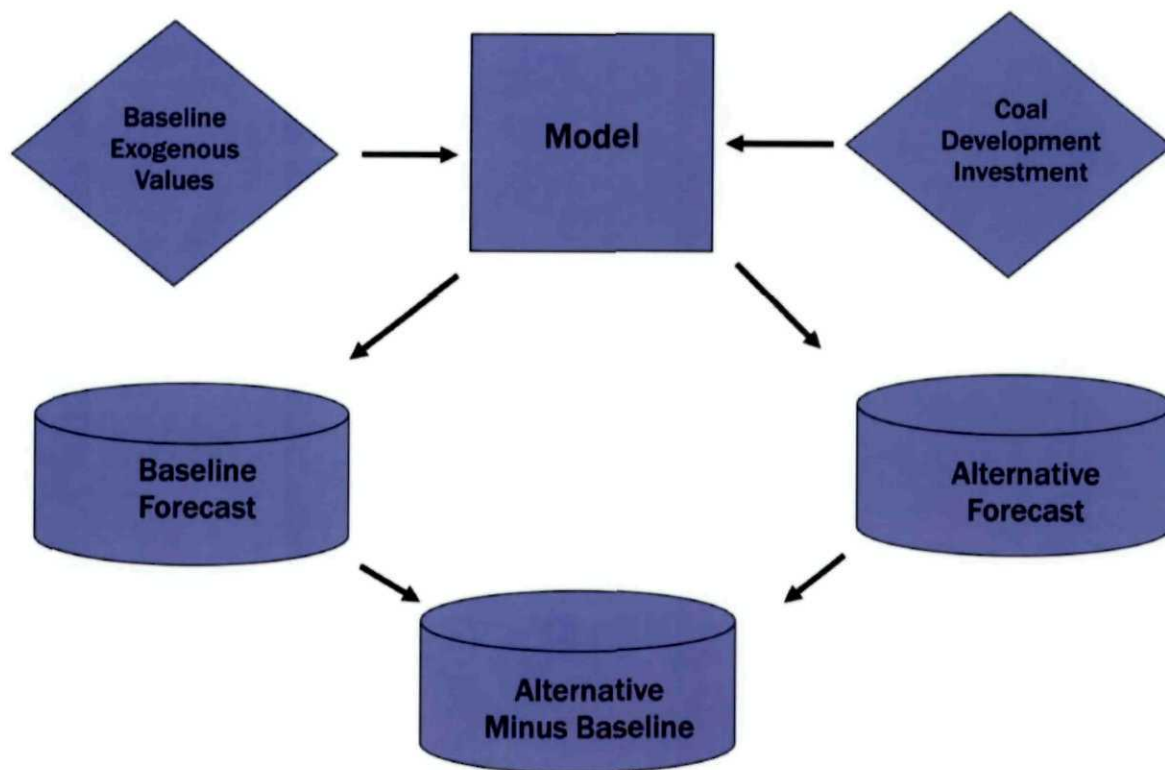
Figure 2.1
Economic Regions



Table 2.1
Eastern Montana Counties

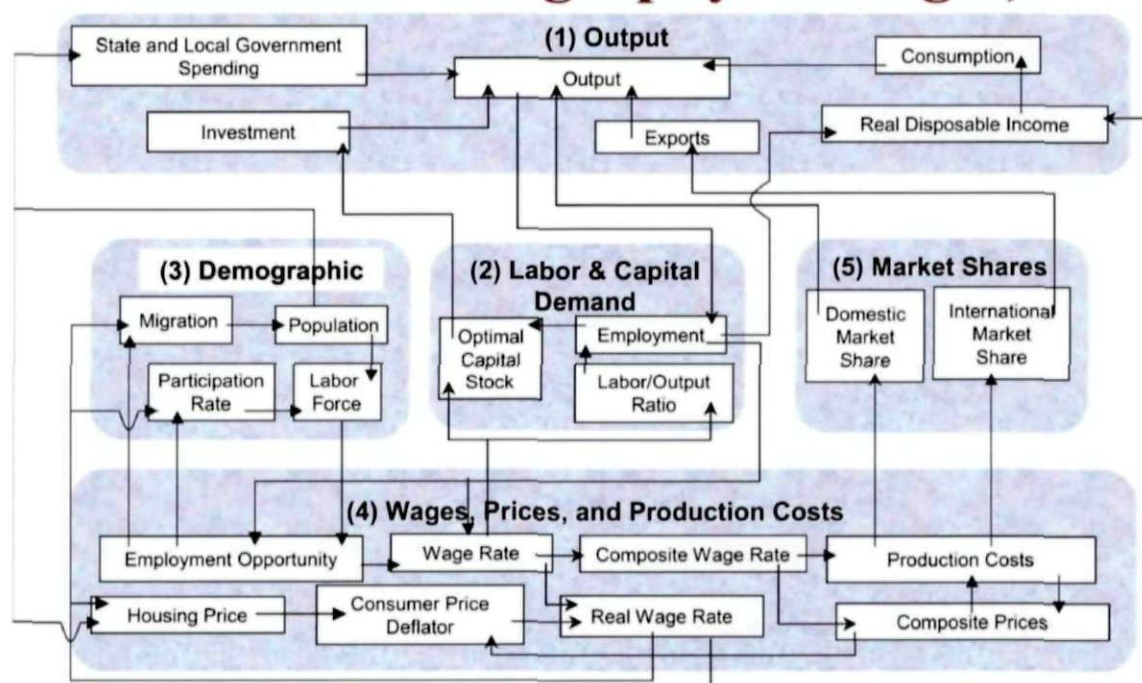
Carter	Powder River
Custer	Prairie
Daniels	Richland
Dawson	Roosevelt
Fallon	Rosebud
Garfield	Sheridan
McCone	Valley
Phillips	Wibaux

Figure 2.2
Policy Analysis with the REMI Model



The use of the model to derive the results of this study is illustrated graphically in Figure 2.2. First, a baseline projection of the economy is produced using the model, utilizing inputs and assumptions which extrapolate growth and conditions of recent history. The model is then used a second time, with identical inputs – except that in this alternative scenario, the activity associated with coal development (including rail) is added. Thus the Otter Creek development is an input that ultimately produces a different economy, reflecting not only the addition of the production, employment, and expenditures of the project, but how the rest of the economy reacts to those changes. The difference between the baseline and alternative scenarios of the economy represents the economic impact of Otter Creek coal development.

REMI Model Linkages (Excluding Economic Geography Linkages)



The model utilizes historical data on production, prices, trade flows, migration and technological change to calibrate the relationship between five basic blocks of the regional economy as depicted above: output, labor and capital demand, population and labor force, wages and prices, and market shares. The changes in production, labor demand and intermediate demand caused by the construction and operation of Otter Creek causes these blocks of the economy to react and adjust to a new equilibrium. As described above, the difference between the baseline and the alternate scenario is the ultimate impact of coal development.

The essential philosophy of the model is that regions throughout the country compete for investment, jobs, and people. When events occur in a region they set off a chain reaction of actions causing dollar flows toward better investment and production opportunities, followed over time by a flow of workers and households toward employment opportunities and higher wages. The model embodies an 82-sector input-output matrix that describes the technological interdependence of production sectors of the economy, as well as extensive trade and capital flow data to determine the share of each sector's demand that can be met by local production.

The model is extremely well suited for the analysis described in this report. As seen in several of the energy studies listed in the references section, it has been used for similar analyses of energy-related investment and opportunities.

As powerful and flexible as the model is, the answers it provides are only as good as the questions posed to it. The majority of work in this study is carefully crafting the inputs used to construct a scenario of the Montana economy that faithfully represents all of the investments and production that encompass Otter Creek coal development. We now turn to this task.

3. The Direct Economic Contribution of Otter Creek Construction and Operations

A careful specification of the scale and timing of the investments and income flows that would occur if Otter Creek coal is developed is a critical first step in understanding how that development would ultimately impact economic activity in Montana. Using publicly available information, we have assembled a scenario of coal investment and operations that is (i) operationally and financially feasible, (ii) consistent with the coal production potential of the Otter Creek tracts, and (iii) consistent with mining developments planned or conducted elsewhere. While the precise spending and timing of actual development that unfolds in the coming years will doubtless deviate from this scenario, it faithfully represents the scale of the investment that is under consideration.

The greenfield development of even a small portion of the estimated 1.3 billion ton Otter Creek coal reserves is a major undertaking. In order to transform a single tract of the approximately 19,200 acres of public and private land in Powder River County from its current agricultural use into an operating coal mine facility, years of contractual, regulatory, engineering, and legal challenges must be addressed and hundreds of millions of dollars expended. Infrastructure to support the mine must also be planned, approved, and constructed, including significant new construction in the railroad network. The overall project would represent one of the largest industrial developments in Montana's modern history.

In this section we detail a development scenario for mining permitting, construction, and operations. In the next section we describe the investments and income flows associated with the rail transport of Otter Creek coal. Jointly these activities represent sizable one-time and continuing income flows to the economy of the state. How those new flows ultimately impact jobs and income in Montana – the central research question of this report – is then assessed using the REMI model as a tool, and the development scenario developed here as the main input.

3.1 The Permitting Phase

Broadly speaking, the permitting, or pre-construction phase of coal development in Otter Creek has been underway since the Montana Land Board voted to support opening the land to coal development in 2009. Significant resources have been expended for land acquisition, engineering and testing, planning, and for legal and lobbying services. Perhaps the most significant and visible of these is the \$85.8 million lease payment made by Arch Coal to the state of Montana in 2010.

Many of these expenditures represent net new income flows to the Montana economy that are attributable to coal development in Otter Creek. Thus it is appropriate to include them as part of the direct economic contributions of the mining development and operation.

The lease payments from Arch Coal to Great Northern Properties, mineral rights owners of the privately held half of the Otter Creek properties, represent a significant investment in coal development. From the standpoint of the Montana economy, however, those payments have largely been directed outside the state. Thus there is no direct impact of this private lease arrangement.

The \$85.6 million payment to the state of Montana, on the other hand, was a (one-time) new income stream to the state. It enabled, among other things, a fiscally strapped Legislature to reduce cuts to programs in the 2011-12 biennium that might otherwise have been made. However, it occurred before the beginning of the study period of this project (2012). Its impacts are embedded in the baseline projection of the economy – but not in our estimates of the economic changes caused by development.

The new income flows that were included in this analysis are the costs of the extensive engineering, environmental, and legal analyses and support services that have begun and are expected to continue as part of the preparation of the mining permit application. This creates a demand for approximately \$4 million per year for professional and technical services in the state economy during the period 2012-2017.

3.2 The Construction Phase

It is assumed for purpose of this analysis that construction of the mine will commence in the year 2015 and will continue for two years. While the actual date is dependent upon the outcomes of regulatory and/or legal proceedings whose timelines and outcomes are unknown in advance, this construction scenario is consistent with a careful and thorough review of all the relevant permit applications. Events that push back the start date for construction will alter the timing, but not the size, of the ultimate economic impacts.

Construction of the railroad (with the exception of the rail spur that serves the new mine's loading facilities) is considered in the next section. For the mine facility's construction phase there are two broad categories of expenditures: equipment and facilities. Equipment includes the dragline, shovels, haul trucks, water trucks, drills, dozers, and other equipment. Facilities include an office, maintenance shop, warehouse, wash bay, power/water system, power station, road and site preparation, coal storage, coal processing plant, and rail spur and loading loop.

This study had access to three categories of information which could be used to create a construction scenario for the Otter Creek mine. These were:

- (i) The Montana Otter Creek Coal Valuation study prepared by Norwest Corporation in 2009 presented construction estimates for the development of two Otter Creek tracts as part of an "income approach" to estimate of

the value of coal leases;

- (ii) Construction estimates for other surface mining projects, most notably the Rosemont Copper project in Arizona;
- (iii) Conversations with Mike Rowlands, director of Otter Creek Operations for Arch Coal.

This information can be summarized as follows.

Norwest Valuation Study. The Norwest study developed a detailed cost plan for development of two Otter Creek tracts as part of an income approach to lease valuation. Their estimates were based upon an independent engineering analysis and prevailing prices for materials and equipment. The model for one of their tracts, termed LMU5 (logical mining unit) in the report, is close in scale to what is studied in this report. The Norwest study estimates \$591.2 million in equipment expenditures and \$123.6 million in facilities spending

Rosemont Copper Project. The development of a 15,000 acre site in Pima County, Arizona, was studied by Arizona State University in 2009 based on a detailed feasibility study made available for the project. While not a description of Otter Creek development, its estimate of \$897.2 million in total construction costs for the greenfield development of a surface mine provide some support for the scale of this project.

Arch Coal. Mike Rowlands, director of Otter Creek Operations for Arch Coal, was able to share his estimates of construction costs associated with Otter Creek coal development in several conversations. His estimates of equipment costs, in particular, were informed by the existence of draglines and other major equipment items that are available internally within the company.

Priced in terms of the value of 2012 dollars, we have estimated the broad categories of construction phase expenditures associated with Otter Creek coal development as equipment expenditures, \$400 million, and facilities expenditures, \$200 million.

3.3 The Operations Phase

It is projected that the development of Otter Creek coal resources envisioned in this study will create an operating mine that will ultimately produce 20 million tons of coal annually, using a year-round workforce of 300 employees with an additional 50 contractors. Production is assumed to commence in 2017, ramping up to full production levels by year 2009.

New surface mining operations such as the projected Otter Creek mine are capital intensive, with very high levels of productivity per worker. Jobs are projected to pay in the neighborhood of \$78,000 per year, not including sizable benefits

There are significant ongoing purchases from vendors of a wide range of items – from electricity to legal services – that have important ramifications for the Montana economy as a result of coal operations. The subsequent impacts of these and other income flows due to coal operations are derived from the REMI model. One purchase, however – rail transportation services – is large and important enough to be considered in its own right. We turn to that subject in the next section.

4. Construction and Operation of the Tongue River Railroad

4.1 Overview

A rail connection with the BNSF mainline in Miles City is an integral component of the Otter Creek Coal Project. This rail line would provide access to domestic and export markets for coal mined in the Ashland area and other nearby sites.

The Tongue River Railroad was first proposed in the 1970s but was never built. It began as a roughly 90-mile line from Miles City to Ashland. In the 1990s, the original project was expanded to extend the rail line south to connect with Decker (now Cloud Peak) mine at the Montana-Wyoming border. In mid-2011 a large landowner from the Birney area purchased one-third of the proposed railroad and said that the tracks would never cross his land. This effectively nullified the extension south of Ashland. Currently the railroad permits are owned in roughly equal parts by Mars, Inc., BNSF, and Arch Coal.

Then, in late 2011 the Ninth Circuit Court of Appeals in San Francisco ruled that the environmental impact statements were deficient in certain areas and construction could not proceed.

The following paragraphs describe features of the proposed Tongue River Railroad. They are based on the original environmental impact statement, the Ninth Circuit's ruling, and discussions with knowledgeable railroad experts

The proposed railroad would proceed southeast from Miles City and generally follow the Tongue River to Ashland. For the first 70 miles it would be west of the river on the opposite bank from Highway 332. About 10 miles north of Ashland the railroad would cross the Tongue River and proceed directly south. An approximately 20-mile spur line would connect the Otter Creek mine with the terminus in Ashland. The overall ruling grade of 0.2 percent makes this line very efficient in terms of fuel consumption.

The rail line would occupy an average right-of-way of 200 feet. There would be about four microwave towers linked to a centralized traffic control board in Miles City which would be the primary communication and signaling facilities. There would be either construction or rehabilitation of an interchange yard in Miles City and the construction of a maintenance facility in Ashland. The construction period would be about three years, with the actual construction season being seven or eight months of the year. The rail line would require the construction of six sidings and 12 bridges.

The trains would require a three-person crew, and Miles City would be terminal location for these crews. A 110-car train with each hopper car holding 100 tons of coal would have a capacity of 11,000 tons. The trains could operate 24 hours a day and 350 days per year. Extracting 20 million tons of coal a year would require about 1,800 round trips

per year—or approximate 5.1 per day. Since each round trip requires two trains (one loaded, one empty), extracting 20 million tons per year would be associated with about ten trains per day. The maximum allowable speed on the Tongue River Railroad would be 40 miles per hour

Two maintenance crews would service the proposed railroad. One crew would be headquartered in Miles City and the other in Ashland. These crews would perform daily maintenance chores as well as cleaning, oiling, and adjusting the switches.

The Tongue River Basin is sparsely populated and semiarid with a mostly agricultural base. Livestock is the dominant agricultural product and most of the land is used for grazing. Only a small portion of the land is used for crops. Only a very small portion of the cropland is irrigated. Dry land farming and irrigated cropland are concentrated in the valley floor near the Tongue River.

4.2 Construction Costs

The major components of railroad construction costs are:

- Acquisition of the right-of-way. For the most part, the right-of way would be approximately 200-feet wide. Sidings and signal devices might require greater width in certain locations.
- Materials and labor. These costs are usually computed as the cost per track foot multiplied by the length of the railroad.
- Construction grade. The average grade of the entire railroad will be an important determinant of fuel costs. The local topology will determine the amount of cut and fill needed to provide an evenly sloped surface between the starting and ending points of the proposed railroad.
- Road crossings. The costs of road crossings is determined by the number of road crossings, the material used at each crossing, the crossing length (i.e., road width), and the type of protection needed (gates, lights, etc.).
- Stream crossings. Depending on the size of the stream, either culverts will be placed under the roadway, a short span bridge built (about 23 feet per span), or a long span bridge (less than 120 feet per span) built.

According to a technical railway website, "A single track freight line with a few locomotives and simple signaling, running across a flat, geologically sound, sparsely populated landscape in a developing country might be built for as little as US\$ 2 million per kilometer." (www.railway-technical.com/finance/shtml) This converts to approximately \$3.3 million per mile.

A Texas railroad consultant estimated average construction costs to be about \$4.0 million per mile including centralized traffic control and other communications.

equipment. For the proposed 89-mile Tongue River Railroad, this yields total construction costs of about \$356 million.

The engineering department of the BNSF railroad independently estimated construction costs of the Tongue River Railroad to be about \$471 million, or approximately \$5.3 million per mile. We chose the BNSF calculation because the engineers are most familiar with the route and terrain associated with the Tongue River Railroad. Construction is assumed to commence in 2015 and continue for three years.

4.3 Railroad Operations

The operations of a coal mine in southeastern Montana will introduce significant new demand for rail transport. From the point of view of the economy, demand for rail transport that originates from a customer in one location is ultimately met by a combination of the local network (self supply) and networks and facilities elsewhere. From the point of view of the Montana economy, supplies of rail services from elsewhere that meet demand originating locally are essentially imports.

Based on mileage calculations to west coast port facilities, and based on an industry average transportation charge of \$ 0.3 per ton mile for coal transport, we project that Otter Creek coal production will generate just over a billion dollars of demand for rail transport annually. That new demand results in new business and higher rail employment for all regions of the state.

5. The Economic Impact of Otter Creek Coal Development

5.1 Impacts Summary

The scenario of coal development, including additions to the railroad network, described in the previous two sections represents significant new income and expenditure streams for the Montana economy. As these projects are carried out, and as the facilities go into operation, the economy of the region, and the state as a whole, can be expected to change significantly. We have analyzed these changes using the REMI model, and we detail our findings in this section of the report.

All of the economic impacts described below are total impacts – which include the spending, production, and income of coal miners, as well as those involved with coal transport, and any new jobs in other industries ultimately induced by their spending. As described in section 2 of this report, these impacts are the difference between a “coal” and “no coal” scenario for any given year.

As we describe below, the changes in the economy evolve over time, for two primary reasons. First, the nature of the project changes significantly when facilities are completed and the operations of the mine commence. Specifically, the construction jobs associated with mine and railroad construction do not continue when capital improvements are complete. The second change in economic impacts over time is caused by population migration. The high wage jobs represent an attractive opportunity for non-residents to move to the region. This migration occurs gradually, and over time increases the population and the workforce.

For readability, we present tables in this section detailing impacts for two points in time: the peak construction year (2016) and the first year of the operations-only period (2019). These two time points are termed the “Construction” and “Operations” impacts, respectively. We also present several charts that describe the impacts visually for the entire project period. Detailed impacts for all years can be found in the Appendix.

Summary of Findings

This study finds that as a result of Otter Creek coal development, the state economy is significantly larger, more prosperous, and more populous than would otherwise be the case. Specifically, we find that as a result of the development of the first of the three Otter Creek tracts, ultimately producing 20 million tons of coal, that:

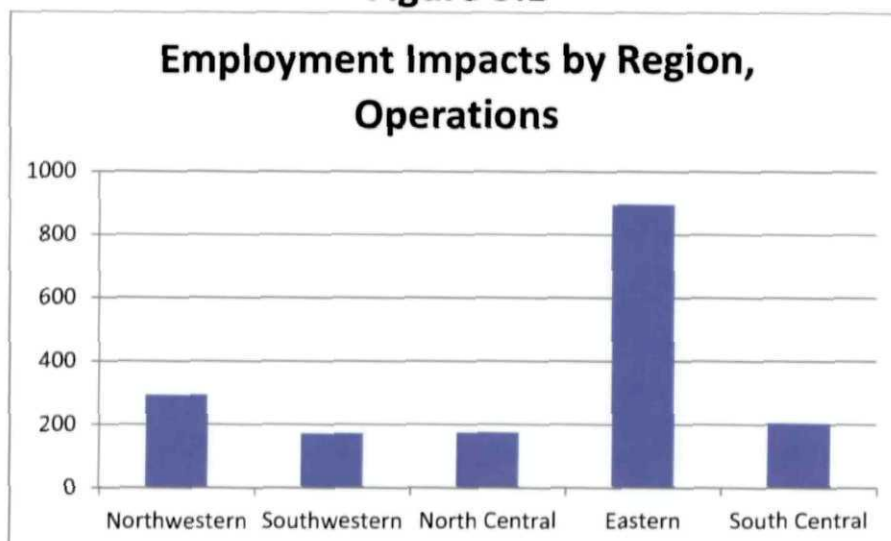
- 2,648 jobs would be created during the peak year of the construction phase as the mine facilities and the railroad are built, with most new jobs created in eastern Montana;

- The impacts on income received by Montana households would be similarly substantial. \$103.5 million of new personal income, and \$87.7 million in after-tax income, would occur during the peak construction year statewide. In eastern Montana, total household earnings would increase more than 6 percent;
- As a result of the continuing operations of the mine, 1,740 new permanent, year-round jobs would be created in the Montana economy, increasing household income by \$125.4 million per year;
- Job increases would occur across a wide spectrum of industries, and, largely due to rail operations, in most regions of the state;
- Overall state population would be more than 2,800 higher, and school-aged population more than 560 higher, due to the operations of the mine.
- Mine operations would increase state and local tax revenue by more than \$91.6 million per year, due to both coal specific taxes as well as growth in the overall base for Montana's other taxes.

Table 5.1
Impacts Summary

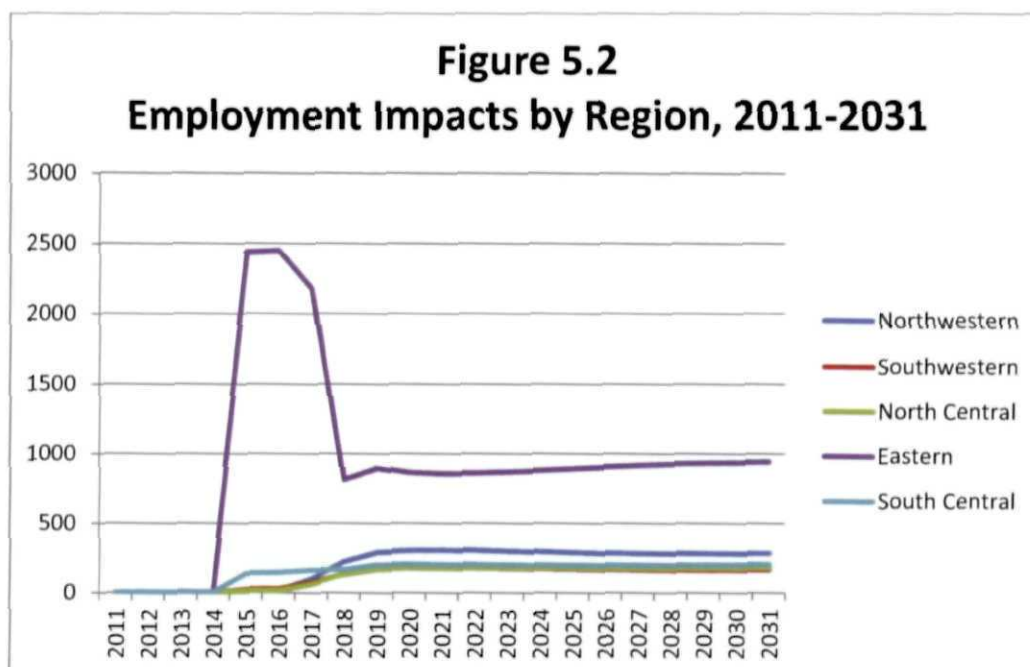
Category	Impacts by Phase	
	Construction	Operations
Total Employment	2,648 Jobs	1,740 Jobs
Private Sector	2,372 Jobs	1,338 Jobs
Personal Income	\$103.5 million	\$125.4 million
Disposable Personal Income	\$87.7 million	\$167.9 million
Population	1,025 people	2,843 people
State tax revenues	\$23.5 million	\$91.6 million

Figure 5.1



5.2 Employment Impacts

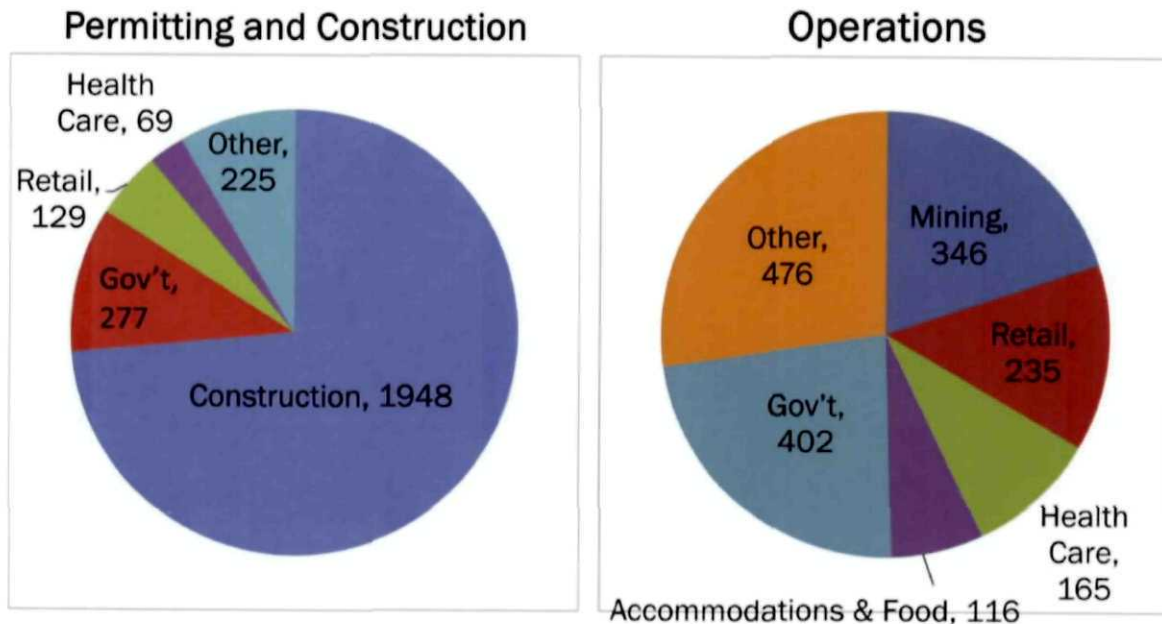
Coal development ultimately will result in a significantly higher number of jobs, both in the eastern Montana region as well as the state as a whole. The construction phase job totals peak at almost 2,650 jobs, with about 90 percent of those additional jobs created in the private sector. As shown in Figure 5.2, most of the construction phase jobs created are in eastern Montana. The next most impacted region of Montana in terms of new jobs is the south central portion of the state, which includes Billings.



As the figure shows, while the construction phase jobs only persist during the period when the mine facilities and rail lines are being built, the operations jobs are permanent additions to the Montana economy. The employment impacts drift up modestly over time as population and demographic dynamics unfold. At the first year of operations, 1,740 new permanent jobs are added to the state economy due to Otter Creek coal operations.

Some insights can be made on the nature of these jobs if we examine the different industries and occupations they represent. As shown in Figure 5.3, the composition of the job impacts changes significantly after the construction phase is over. Nearly three quarters of all of the jobs created by coal development during the construction phase of the project are in the construction industry itself. Smaller, yet significant, impacts are seen in Government, Retail Trade, Health Care, and other industries as the spending of construction and other workers propagates through the regional economy.

Figure 5.3
Employment Impacts by Industry



When the operations phase is underway, the composition of the jobs impacts changes. This reflects not only the addition of the mining jobs themselves, but also the population- related increases in local public school employment (included in Government), health care jobs and such businesses as retail and restaurants. These impacts demonstrate the importance of the induced jobs created as the direct impacts of mining and railroad jobs impact services and government in the state.

A second way to look at the job impacts of coal development is by examining the impacts by occupation. The U.S. Bureau of Labor Statistics classifies each job in the economy into 23 major categories, from white collar management to blue collar production occupations. Figure 5.4 again shows that the most profound job impacts of coal development in the construction phase of the project is in the construction and extraction occupations, comprising nearly half of all jobs created. When looking at occupations, however, the job impacts are more varied in all phases of the project. There are significant management jobs involved in construction and permitting, as well as jobs in sales and administrative support, maintenance jobs and jobs in other occupations. The full list of job impacts by occupations is shown in Table 5.2.

In the operations phase, job impacts spread out across a larger number of occupations. The largest impacts are on sales and administrative support positions, construction occupations, transportation occupations, and management.

Figure 5.4
Employment Impacts by Occupation

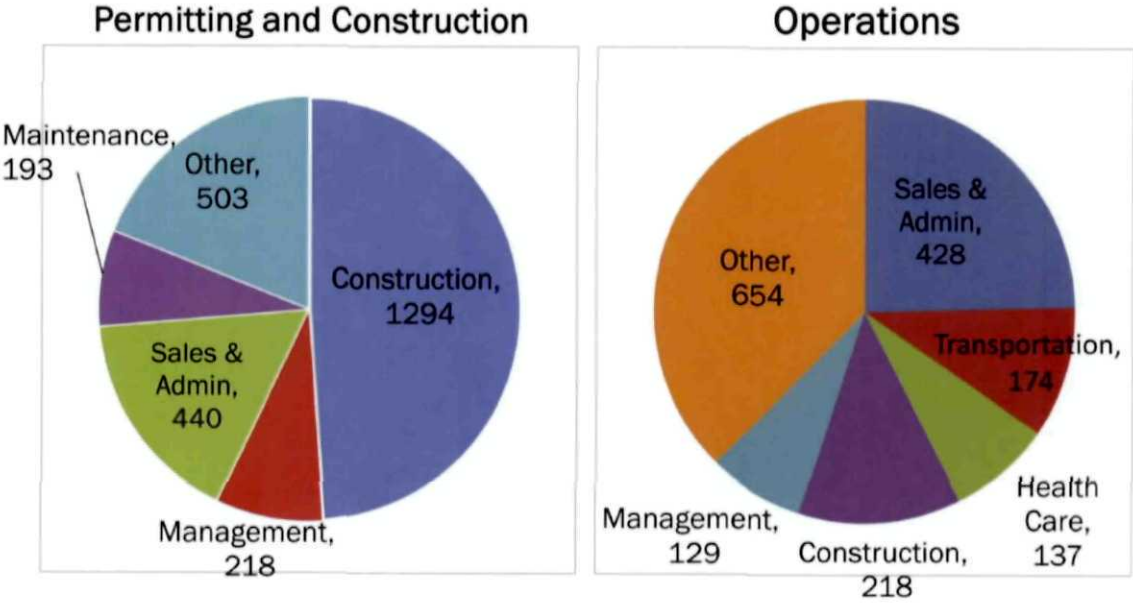


Table 5.2
Employment Impacts by Occupation

Occupation	Job Impacts by Phase	
	Construction	Operations
Management, business, financial occupations	218	129
Computer, math, architect, engineer occupations	49	49
Life, physical, social science occupations	10	16
Community, social service occupations	4	10
Legal occupations	10	15
Education, training, library occupations	8	17
Arts, design, entertainment, sports, media occupations	7	13
Health care occupations	65	137
Protective service occupations	74	110
Food preparation, serving related-occupations	59	124
Building, grounds, personal care, service occupations	60	106
Sales, office, administrative occupations	440	428
Farm, fishing, forestry occupations	2	2
Construction, extraction occupations	1,294	218
Installation, maintenance, repair occupations	193	122
Production occupations	49	71
Transportation, material moving occupations	107	174
TOTAL	2,648	1,740

5.3 Income and Compensation Impacts

The income impacts attributable to the development of Otter Creek coal are substantial, whether measured against the income of the entire state, or against the much smaller income base of eastern Montana. Both mining and railroad jobs pay wages significantly above the state average, and even though every job created by coal development is not a high paying job, the increased income due to the project is substantial.

Since income is measured in dollars, and the impacts of coal development occur in the future, it is important to take into account the effect of wage and price inflation when reporting these results. All impacts measured in dollars in this report are calculated according to their purchasing power in year the 2012. Thus with inflation, a dollar amount of income realized in, say, year 2019 would yield a somewhat smaller amount

Table 5.3
Personal Income Impact, Millions of Dollars

Category	Income Impacts by Phase	
	Construction	Operations
Total Earnings by Place of Work	\$123.0	\$119.4
Total Wage and Salary Disbursements	81.9	88.1
Supplements to Wages and Salaries	21.0	25.5
Employer contributions for employee pension and insurance funds	13.5	16.3
Employer contributions for government social insurance	7.5	9.2
Proprietors' income with inventory valuation and capital consumption adjustments	20.2	5.8
Less: Contributions for government social insurance	15.8	18.3
Employee and self-employed contributions for government social insurance	8.3	9.1
Employer contributions for government social insurance	7.5	9.2
Plus: Adjustment for residence*	-1.7	-1.2
Gross earnings flows into Montana	2.2	2.1
Gross earnings flows out of Montana	3.9	3.3
Equals: Net earnings by place of residence	105.6	99.9
Plus: Rent, interest, and dividends	5.8	19.0
Plus: Personal current transfer receipts	-7.8	6.6
Equals: Personal Income	103.5	125.4
Less: Personal current taxes	15.7	-42.4
Equals: Disposable personal income	87.7	167.9

* Total earnings data are derived from records of employers who are located in Montana. Since some Montana workers are employed by out-of-state firms, and some Montana firms employ workers from other states, the adjustment for residence nets out these two impacts to produce an estimate of Montana residents' income.

of purchasing power in 2012, and the inflation correction (which reduces it) reflects that fact.

As shown in Table 5.3, there is considerably more to personal income – the income received by Montana households – than the wages and salaries workers receive from employment. Most – but not all – of the income impacts listed in the table for both the construction and operations phase of the project are connected to employment. Total earnings are \$123 million higher during the construction phase of the project, including benefits and an additional \$20.2 million earned by business owners during the same year due to coal development. Even some categories of so-called non-earned income, such as dividends, interest, and rent are positively impacted by coal development, largely through the population impacts of the project.

The U.S. Bureau of Economic Analysis defines personal income as wages and benefits net of social security contributions, but prior to paying personal income tax. The impact on personal income is \$105.6 million during the peak year of the construction phase, and falls only slightly to just shy of \$100 million per year during the operations phase. The very small decrease, despite the much fewer number of jobs when construction is over, reflects the high paying nature of the rail and mining jobs that commence with mine operation.

After tax, or disposable personal income, impacts actually are higher during the operations phase, at about \$168 million per year. This is because of the treatment of the severance taxes paid to state government during mining operations. As described in section 3, these taxes are assumed to be used to finance state expenditures with a slightly lower personal tax rate. As shown in the table, the net effect of this tax decline with the increase base is a \$42.4 million decrease in personal tax payments (to both the state and federal government).

The earnings and income impacts of coal development are significant. With the construction phase concentrated in less populous eastern Montana, the additional income attributable to coal development in the last year of construction (2017) for this single project represents more than 3.5 percent of total income for the entire region. In the operations phase of the project, the average earnings per new job added (\$68,600) exceeds the state average by a sufficient margin to actually raise the total compensation per job in the entire state economy (Table 5.4). It is clear that in terms of income, coal development is an important event.

Table 5.4
Compensation Impacts

Category	Units	Compensation Impacts by Phase	
		Construction	Operations
Wage and Salary Disbursements	\$ Millions	81.9	88.1
Compensation	\$ Millions	102.9	113.6
Earnings by Place of Work	\$ Millions	123.0	119.4
Average Annual Wage Rate	\$ Thousands	0.003	0.054
Average Annual Compensation Rate	\$ Thousands	0.001	0.071
Average Annual Earnings Rate	\$ Thousands	0.010	0.060

Note: Compensation includes cash and non-cash employee benefits, including health, retirement, and other employer-funded programs. Earnings includes employee compensation and proprietor's income. All compensation is measured on a place-of-work basis.

5.4 Output Impacts

A third aspect of the impact of coal development on the Montana economy can be evaluated by examining the impacts on economic output. This is particularly relevant for capital-intensive industries whose employment impacts may understate their reaction to changes that occur as a result of new coal activity. Net output is measured in inflation-corrected dollars, using value added (revenues minus costs) by industry.

Table 5.5 reveals that the impact on economic output is almost 60 percent higher during mining operations than during the construction phase of the project, even as the total employment impact falls after construction. This occurs as the two most capital intensive industries – mining and rail transport – ramp up as mining operations commence. The table clearly reveals the outsized impact contribution of mining's value added during the operations phase.

These output gains are substantial, especially as measured against the comparatively smaller regional economy of eastern Montana. Whereas the overall output increase of \$231.1 million per year during the operations phase only represents about 0.4 percent of total state output, \$150.3 million of that change comes from producers located in eastern Montana. Mining operations at this single facility in Powder River County are thus responsible for more than 4 percent of total economic output of the entire region.

Table 5.5
Gross Domestic Product Impacts
 (Private Sector, \$ Millions)

Industry	GDP Impacts by Phase	
	Construction	Operations
Forestry, Fishing, Related Activities, and Other	0.0	0.0
Mining	(0.3)	138.9
Utilities	0.1	2.4
Construction	110.7	6.4
Manufacturing	0.5	0.4
Wholesale Trade	5.0	9.1
Retail Trade	7.1	14.8
Transportation and Warehousing	(0.0)	10.1
Information	0.1	0.4
Finance and Insurance	0.4	1.4
Real Estate and Rental and Leasing	1.8	6.0
Professional and Technical Services	1.8	2.9
Management of Companies and Enterprises	(0.0)	(0.0)
Administrative and Waste Services	1.0	2.0
Educational Services	0.0	0.2
Health Care and Social Assistance	4.9	12.0
Arts, Entertainment, and Recreation	0.1	0.4
Accommodation and Food Services	1.4	3.1
Other Services, except Public Administration	1.7	2.8
Total	136.3	213.1

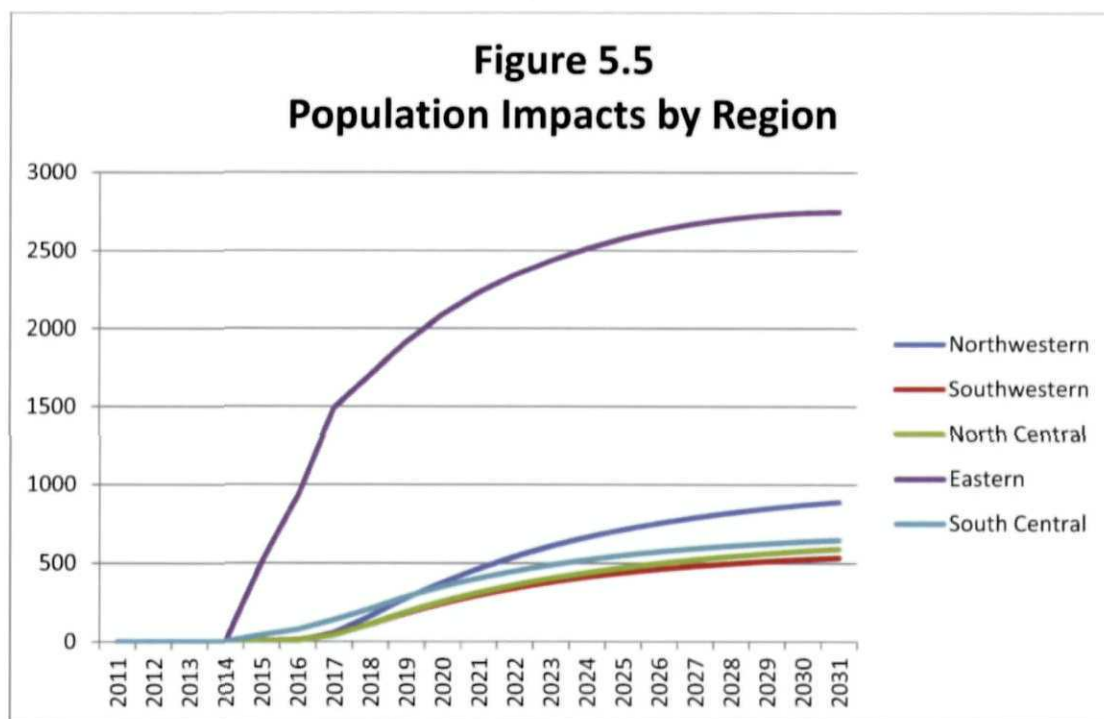
5.5 Population Impacts

The economic opportunity represented by a large scale energy investment paying compensation per job substantially in excess of the Montana average is attractive to potential workers. As has actually occurred in the wake of other significant capital

investments that create high paying jobs – e.g., Colstrip in the 1980s – we can expect to see a significant increase in the population of southeastern Montana resulting from coal development. A second, less pronounced, draw for new migrants to the state could result from the ability of state government to meet its obligations with slightly lower personal taxes – making up the difference with severance taxes collected from the new mine. This effectively increases the after-tax wage of every Montana job, making state jobs slightly more attractive than the “no coal” scenario situation.

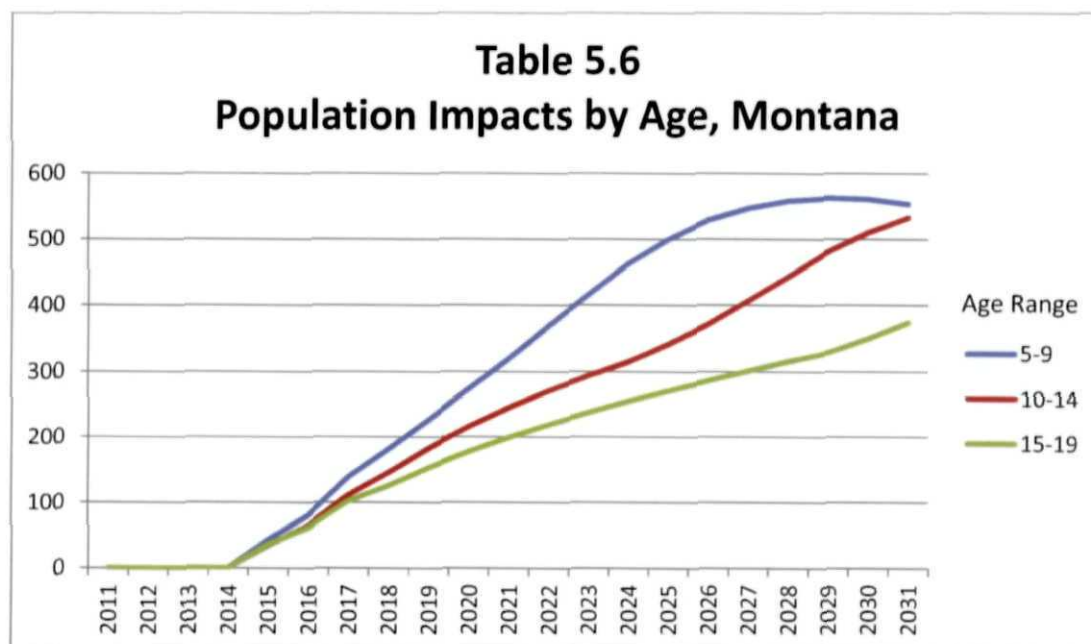
Population changes take time to develop, for two reasons. First, as an empirical matter, years typically pass before increased opportunity induces a nonresident household to relocate. This is due in part to the expense and complexity of moving families. A second reason is that children born to those who migrate may not show up until years after the move. This is especially prevalent since mobility is prominent for those in prime child-bearing ages groups.

For these reasons, the population impacts of coal development in Otter Creek given in summary Table 5.1 at the beginning of this section significantly understate the changes in population that the development will eventually produce.



As is clear from Figure 5.5 above, the population impacts grow significantly beyond year 2019, which is the first year of full mine operation reported in the overall impacts summary. Indeed, by year 2031 mining operations will ultimately be responsible for the addition of almost 5,400 more people throughout the state, with roughly half living in eastern Montana. This gradual increase in population will create additional demand for housing, health care, consumer goods, and government services.

Since younger people are more mobile, population migration has particular impacts on the younger aged cohorts. Of particular interest to rural school districts in the slower growing areas of the state is the impact of coal development on the school-aged population.



The statewide impacts are shown in Figure 5.6 above for three five-year age cohorts. These correspond roughly to elementary, middle school, and high school populations. These population impacts build over time, such that in year 2031 we would expect the total increase to approach 1,500. This could stabilize or increase the demand for public schooling in the affected communities.

5.6 Summary

This section has examined in detail the changes that can be expected to occur in the Montana and the eastern Montana economies as a result of coal development in Powder River County. Not only is the development of the coal and rail infrastructure and facilities responsible for almost 2,700 jobs and more than \$100 million in personal income in the peak construction year of the projects, but the operations of the mine will create 1,740 permanent, high-paying jobs across the state. By any measure, these are significant impacts that help create a more productive, prosperous, and populous state economy.

6. Conclusion

The research question posed by this study is "What would the economy of Montana look like if Otter Creek coal development takes place?" It is a hypothetical question – we have no special insight on the prospects for those investments, from either an economic or a political standpoint. Yet in a policy and political environment where the contributions of coal development to the state economy are poorly understood or perhaps taken for granted, it deserves to be carefully analyzed and answered.

Using a state-of-the-art policy analysis model of the Montana economy that has been peer-reviewed and used in dozens of other studies, we have carefully examined the contribution made to both the economy of eastern Montana as well as to the state economy as a whole by the proposed Otter Creek mine. Our study has revealed the footprint of this single facility in Powder River County to be substantial. Comparing the status quo economy to one that would exist if the construction and operations of the mine took place as envisioned, we find that:

- 2,648 jobs, including 2,372 private sector jobs,
- more than \$103 million of personal income received by Montanans, and
- \$136 million in net output produced in Montana

would be created and sustained annually throughout the construction period for both the mine and the railroad. Almost three-quarters of these new jobs would be in the state's hard-hit construction industries.

When the mine goes into operation and ramps up to the 20 million tons of annual production envisioned, there will be:

- 1,740 permanent jobs, including 1,338 private sector jobs,
- more than \$125.4 million in annual personal income,
- 2,843 more people, and
- almost \$92 million in additional annual state tax revenues

in the Montana economy that are attributable to Otter Creek operations. To state it another way, without Otter Creek, the Montana economy will be smaller, less prosperous, and less populous by these amounts.

There are several aspects of Otter Creek coal development that lead directly to this impressive result. First, the facility will pay wages and benefits to its workforce that are substantially above the state and regional average. When employees spend part of their money in the local and state economy, many other jobs are supported. Second, the operation of the facility is a boon to another high-paying industry with a significant presence in Montana, namely, the railroad. Finally, the project involves a huge capital

investment – well in excess of \$1 billion – to be committed to the equipment, facilities, rail, and other support infrastructure in the state.

Finally, the product produced by Otter Creek – high quality coal delivered to domestic and overseas markets – does not displace or crowd out other Montana producers. Thus its activities add to, rather than supplant or replace, other activities in the economy. The uses and demand for electricity worldwide continue to grow, and the prospects for the state with the nation's largest coal reserves to take advantage of the opportunity are very good.

7. References

Draft Environmental Statement, Regional Analysis, Northern Powder River Basin Coal, Montana, U.S. Department of the Interior and Montana Department of State Lands, 1979.

The Structure and Economic Impact of Utah's Coal Industry, Bureau of Economic and Business Research, University of Utah, May 2010.

Effects of Coal Development in the Northern Great Plains, Northern Great Plains Resource Program, Denver, CO, 1975.

Polzin, Paul E., "Montana's Coal Industry: Facing and Uncertain Future," Montana Business Quarterly, Vo. 23 No. 2, pp 2-16.

Montana Otter Creek State Coal Valuation, Norwest Corporation, Submitted to Montana Department of Natural Resources and Conservation, January 30, 2009.

Task 3C Report for the Powder River Basin Coal Review Cumulative Social and Economic Effects, ENSR Corporation, Prepared for Bureau of Land Management, December 2005.

An Assessment of the Economic Impacts of the Rosemont Copper Project on the Economies of the Cochise/Pima/Santa Cruz Counties Study Area, Arizona, and the United States, L. William Siedman Research Institute, Arizona State University, prepared for the Arizona Department of Mines and Mineral Resources, April 2010.

Draft Supplemental Environmental Impact Statement, Surface Transportation Board, U.S. Department of Transportation, Volume I, October, 2004.

Regional Economic Modeling: A Systematic Approach to Economic Forecasting and Policy Analysis; George I. Treyz, 1993. Norwell: Kluwer Academic Publishers.

U.S. Energy Information Administration (EIA), International Energy Statistics database (www.eia.gov/ies, accessed November, 2011).

APPENDIX
REMI Tables

Otter Creek Summary Economic Summary

C:\Users\Pat.Barkey\Documents\REM\PI+ Montana Regions v1.3.5 (Build 2599)\Workbooks\Otter Creek with RR and taxes.rwb
Regional Simulation 1 compared to Standard Regional Control — Difference
Region = All Regions
Economic Summary

Category	Units	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total Employment	Individuals (Jobs)	+6	+6	+6	+2,626	+2,648	+2,585	+1,481	+1,740	+1,740	+1,739
Total Employment as % of Nation	Percent	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
Private Non-Farm Employment	Individuals (Jobs)	+5	+5	+5	+2,364	+2,372	+2,246	+1,175	+1,338	+1,337	+1,333
Private Non-Farm Employment as % of N	Percent	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
Gross Domestic Product	Millions of Fixed (2005) I	+0	+0	+0	+121	+123	+149	+134	+180	+179	+179
Gross Domestic Product (GDP) as % of N	Percent	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
Output	Millions of Fixed (2005) I	+0	+0	+0	+212	+214	+267	+251	+342	+343	+343
Value Added	Millions of Fixed (2005) I	+0	+0	+0	+121	+123	+149	+134	+180	+179	+179
Personal Income	Millions of Current Dollar	+0	+0	+0	+96	+112	+152	+125	+144	+151	+157
Personal Income as % of Nation	Percent	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
Disposable Personal Income	Millions of Current Dollar	+0	+0	+0	+82	+95	+156	+161	+193	+201	+208
Disposable Personal Income as % of Nats	Percent	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
PCE-Price Index	2005=100 (Nation)	0	+0	+0	+0	+0	+0	+0	+0	+0	+0
Real Disposable Personal Income	Millions of Fixed (2005) I	+0	+0	+0	+64	+71	+115	+116	+136	+139	+140
Real Disposable Personal Income as % of	Percent	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
Population	Individuals	+0	+1	+1	+559	+1,025	+1,770	+2,289	+2,843	+3,308	+3,701
Population as % of Nation	Percent	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0

Otter Creek Summary Economic Summary

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Regional Simulation 1 compared to Standard Regional Control — Difference
Region = All Regions
Economic Summary

2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
+1,736	+1,735	+1,736	+1,738	+1,743	+1,750	+1,758	+1,768	+1,776	+1,787	+1,795	+1,805	+1,810	+1,813	+1,813
+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
+1,327	+1,325	+1,324	+1,325	+1,330	+1,336	+1,344	+1,353	+1,361	+1,371	+1,380	+1,390	+1,396	+1,400	+1,402
+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
+178	+178	+179	+179	+180	+180	+181	+182	+184	+185	+186	+188	+190	+191	+192
+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
+343	+344	+345	+345	+347	+348	+349	+351	+353	+355	+357	+359	+361	+363	+364
+178	+178	+179	+179	+180	+180	+181	+182	+184	+185	+186	+188	+190	+191	+192
+162	+168	+175	+181	+188	+196	+204	+213	+223	+234	+245	+258	+271	+283	+297
+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
+215	+223	+231	+239	+247	+256	+266	+277	+288	+301	+314	+328	+342	+356	+372
+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
+142	+143	+144	+146	+147	+148	+150	+151	+153	+155	+158	+160	+162	+164	+167
+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
+4,031	+4,310	+4,546	+4,745	+4,913	+5,054	+5,171	+5,266	+5,341	+5,398	+5,437	+5,462	+5,472	+5,468	+5,453
+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0

Otter Creek Summary

Personal Income

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Regional Simulation I compared to Standard Regional Control — Difference

Region = All Regions

Personal Income

Category	Units	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total Earnings by Place of Work	Millions of Fixed (2012) I	+0	+0	+0	+114	+123	+154	+109	+119	+116	+112
Total Wage and Salary Disbursements	Millions of Fixed (2012) I	+0	+0	+0	+74	+82	+108	+81	+88	+86	+83
Supplements to Wages and Salaries	Millions of Fixed (2012) I	+0	+0	+0	+19	+21	+28	+22	+25	+26	+26
Employer contributions for employee pe	Millions of Fixed (2012) I	+0	+0	+0	+12	+13	+18	+14	+16	+16	+16
Employer contributions for government	Millions of Fixed (2012) I	+0	+0	+0	+7	+8	+10	+8	+9	+9	+9
Proprietors' income with inventory valua	Millions of Fixed (2012) I	+0	+0	+0	+21	+20	+17	+6	+6	+4	+3
Less: Contributions for Government Socia	Millions of Fixed (2012) I	+0	+0	+0	+14	+16	+21	+16	+18	+18	+18
Employee and Self-Employed Contributio	Millions of Fixed (2012) I	+0	+0	+0	+7	+8	+11	+8	+9	+9	+9
Employer contributions for government s	Millions of Fixed (2012) I	+0	+0	+0	+7	+8	+10	+8	+9	+9	+9
Plus: Adjustment for Residence	Millions of Fixed (2012) I	0	0	0	-2	-2	-2	-1	-1	-1	-1
Gross In	Millions of Fixed (2012) I	+0	+0	+0	+2	+2	+3	+2	+2	+2	+2
Gross Out	Millions of Fixed (2012) I	+0	+0	+0	+4	+4	+5	+3	+3	+3	+3
Equals: Net Earnings by Place of Residenc	Millions of Fixed (2012) I	+0	+0	+0	+98	+106	+131	+92	+100	+96	+93
Plus: Rental, Personal Interest, and Perso	Millions of Fixed (2012) I	+0	+0	+0	+3	+6	+11	+15	+19	+22	+25
Plus: Personal Current Transfer Receipts	Millions of Fixed (2012) I	0	0	0	-10	-8	-4	+5	+7	+9	+12
Equals: Personal Income	Millions of Fixed (2012) I	+0	+0	+0	+91	+103	+138	+111	+125	+128	+130
Less: Personal current taxes	Millions of Fixed (2012) I	+0	+0	+0	+14	+16	-4	-32	-42	-42	-43
Equals: Disposable personal income	Millions of Fixed (2012) I	+0	+0	+0	+77	+88	+141	+144	+168	+171	+173

Otter Creek Summary
 Personal Income

C:\Users\Pat.Barkey\Documents\REMIT\PI+ Montana Regions v1.3.5 (Build 2599)\Workbooks\Otter Creek with RR and taxes.rwb
 Regional Simulation 1 compared to Standard Regional Control — Difference
 Region = All Regions
 Personal Income

2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
+108	+105	+103	+101	+99	+98	+97	+97	+97	+97	+98	+99	+99	+100	+100
+81	+79	+77	+76	+75	+74	+73	+73	+73	+74	+74	+74	+75	+75	+76
+26	+26	+26	+26	+26	+26	+27	+27	+27	+27	+28	+28	+28	+28	+29
+17	+17	+17	+17	+17	+17	+17	+17	+17	+17	+18	+18	+18	+18	+18
+9	+9	+9	+9	+9	+10	+10	+10	+10	+10	+10	+10	+10	+10	+10
+2	+1	0	-1	-2	-3	-3	-3	-3	-4	-4	-4	-4	-4	-4
+18	+17	+17	+17	+17	+17	+17	+17	+17	+17	+18	+18	+18	+18	+18
+8	+8	+8	+8	+8	+8	+8	+8	+8	+8	+8	+8	+8	+8	+8
+9	+9	+9	+9	+9	+10	+10	+10	+10	+10	+10	+10	+10	+10	+10
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2
+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3
+90	+87	+84	+82	+81	+80	+79	+79	+79	+79	+79	+80	+80	+81	+81
+28	+30	+32	+34	+36	+37	+39	+40	+42	+43	+44	+46	+47	+48	+50
+14	+16	+17	+19	+20	+21	+22	+23	+24	+25	+27	+28	+29	+30	+31
+132	+133	+134	+135	+137	+138	+140	+142	+144	+147	+150	+153	+156	+159	+162
-43	-43	-43	-43	-43	-43	-43	-42	-42	-42	-42	-41	-41	-41	-41
+174	+176	+177	+178	+179	+181	+182	+185	+187	+189	+192	+195	+198	+200	+203

Otter Creek Summary

Employment | Industry | Private Non-Farm | Private Non-Farm Employment | Sector Level

C:\Users\Pat.Barkey\Documents\REM\PI+ Montana Regions v1.3.5 (Build 2599)\Workbooks\Otter Creek with RR and taxes.rwb

Regional Simulation 1 compared to Standard Regional Control — Difference

Region = All Regions

Sector Level

Category	Units	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Forestry, Fishing, Related Activities, and Hunting	Individuals (Jobs)	+0	0	0	+0	+0	+0	+0	+0	+0	+0
Mining	Individuals (Jobs)	0	0	0	-1	-3	+346	+345	+346	+335	+326
Utilities	Individuals (Jobs)	+0	+0	0	+1	+0	+2	+4	+6	+5	+5
Construction	Individuals (Jobs)	+0	+0	+0	+1,978	+1,948	+1,218	+50	+79	+89	+94
Manufacturing	Individuals (Jobs)	+0	+0	+0	+5	+4	+3	+2	+3	+3	+3
Wholesale Trade	Individuals (Jobs)	+0	+0	+0	+31	+41	+60	+60	+66	+63	+60
Retail Trade	Individuals (Jobs)	+0	+0	+0	+106	+129	+208	+213	+235	+230	+226
Transportation and Warehousing	Individuals (Jobs)	+0	0	0	+0	0	0	+47	+51	+50	+48
Information	Individuals (Jobs)	+0	+0	+0	+1	+1	+1	+2	+3	+2	+2
Finance and Insurance	Individuals (Jobs)	+0	+0	0	+2	+2	+4	+6	+7	+7	+7
Real Estate and Rental and Leasing	Individuals (Jobs)	+0	+0	+0	+14	+12	+26	+35	+45	+45	+43
Professional and Technical Services	Individuals (Jobs)	+4	+4	+4	+27	+30	+34	+37	+44	+43	+42
Management of Companies and Enterprises	Individuals (Jobs)	0	0	0	0	0	0	0	0	0	0
Administrative and Waste Services	Individuals (Jobs)	+0	+0	+0	+25	+25	+33	+34	+43	+43	+43
Educational Services	Individuals (Jobs)	+0	+0	+0	+1	+1	+3	+5	+7	+8	+8
Health Care and Social Assistance	Individuals (Jobs)	+0	+0	+0	+67	+69	+125	+137	+165	+167	+171
Arts, Entertainment, and Recreation	Individuals (Jobs)	+0	+0	+0	+5	+5	+11	+16	+20	+20	+21
Accommodation and Food Services	Individuals (Jobs)	+0	+0	+0	+47	+54	+87	+95	+116	+125	+134
Other Services, except Public Administration	Individuals (Jobs)	+0	+0	+0	+55	+54	+84	+87	+103	+101	+99

Otter Creek Summary

Employment | Industry | Private Non-Farm | Private Non-Farm Employment | Sector Level

C:\Users\Pat.Barkey\Documents\REMI\PI+ Montana Regions v1.3.5 (Build 2599)\Workbooks\Otter Creek with RR and taxes.rwb

Regional Simulation 1 compared to Standard Regional Control — Difference

Region = All Regions

Sector Level

2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
0	0	0	+0	+0	+0	+0	+0	+0	+0	+0	+1	+1	+1	+1
+317	+309	+301	+293	+286	+279	+273	+266	+259	+254	+247	+242	+236	+230	+224
+5	+5	+5	+6	+6	+6	+6	+6	+6	+6	+6	+6	+6	+6	+5
+95	+96	+95	+96	+97	+98	+101	+103	+105	+108	+110	+114	+117	+119	+121
+3	+3	+3	+3	+3	+4	+4	+4	+4	+4	+4	+5	+5	+5	+5
+58	+55	+54	+52	+51	+50	+49	+48	+47	+46	+45	+45	+44	+43	+43
+222	+220	+217	+216	+215	+214	+213	+213	+213	+214	+215	+215	+215	+215	+214
+47	+46	+45	+45	+44	+43	+43	+42	+42	+41	+41	+40	+39	+39	+38
+3	+3	+3	+3	+3	+4	+4	+4	+4	+5	+5	+5	+5	+5	+5
+7	+7	+8	+8	+9	+9	+10	+11	+11	+12	+12	+13	+13	+14	+14
+42	+40	+39	+38	+37	+37	+37	+37	+37	+37	+37	+38	+38	+38	+38
+41	+41	+40	+41	+41	+42	+43	+44	+45	+46	+47	+48	+49	+50	+51
0	0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
+43	+43	+43	+43	+43	+44	+44	+45	+45	+46	+47	+47	+48	+48	+48
+9	+9	+9	+10	+10	+10	+10	+10	+11	+11	+11	+11	+11	+11	+12
+175	+180	+186	+192	+198	+205	+211	+218	+225	+231	+238	+244	+250	+255	+259
+22	+23	+24	+25	+25	+26	+27	+28	+29	+30	+31	+32	+32	+33	+34
+141	+148	+154	+160	+165	+169	+173	+176	+179	+182	+184	+186	+187	+188	+189
+98	+97	+97	+96	+96	+97	+97	+98	+98	+99	+99	+100	+100	+100	+100

Otter Creek Summary
Employment | Industry | Government | State and Local

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Regional Simulation 1 compared to Standard Regional Control — Difference
Region = All Regions
State and Local

Category	Units	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
State Government	Individuals (Jobs)	+0	+0	+0	+35	+37	+50	+54	+71	+73	+73
Local Government	Individuals (Jobs)	+0	+0	+0	+228	+240	+289	+251	+331	+331	+334

Otter Creek Summary
Employment | Industry | Government | State and Local

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Regional Simulation 1 compared to Standard Regional Control — Difference
Region = All Regions
State and Local

2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
+73	+73	+73	+73	+73	+72	+72	+72	+72	+73	+73	+73	+73	+73	+73
+335	+337	+339	+340	+341	+342	+342	+343	+343	+343	+342	+342	+341	+340	+338

Otter Creek Summary

Employment | Occupation | Summary Level

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Regional Simulation 1 compared to Standard Regional Control — Difference

Region = All Regions

Summary Level

Category	Units	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Management, business, financial occupations	Individuals (Jobs)	+1	+1	+1	+217	+218	+196	+105	+129	+129	+129
Computer, math, architect, engineer occupations	Individuals (Jobs)	+1	+1	+1	+48	+49	+55	+40	+49	+48	+48
Life, physical, social science occupations	Individuals (Jobs)	+0	+0	+0	+9	+10	+14	+13	+16	+16	+16
Community, social service occupations	Individuals (Jobs)	+0	+0	+0	+4	+4	+7	+8	+10	+11	+11
Legal occupations	Individuals (Jobs)	+0	+0	+0	+10	+10	+12	+12	+15	+15	+15
Education, training, library occupations	Individuals (Jobs)	+0	+0	+0	+8	+8	+12	+13	+17	+17	+18
Arts, design, entertainment, sports, media occupations	Individuals (Jobs)	+0	+0	+0	+7	+7	+10	+10	+13	+13	+13
Healthcare occupations	Individuals (Jobs)	+0	+0	+0	+62	+65	+107	+113	+137	+138	+140
Protective service occupations	Individuals (Jobs)	+0	+0	+0	+70	+74	+92	+84	+110	+110	+111
Food preparation, serving related occupations	Individuals (Jobs)	+0	+0	+0	+51	+59	+94	+102	+124	+133	+141
Building, grounds, personal care, service occupations	Individuals (Jobs)	+0	+0	+0	+60	+60	+88	+88	+106	+105	+104
Sales, office, administrative occupations	Individuals (Jobs)	+2	+2	+2	+421	+440	+489	+366	+428	+421	+416
Farm, fishing, forestry occupations	Individuals (Jobs)	+0	+0	+0	+2	+2	+2	+2	+2	+2	+2
Construction, extraction occupations	Individuals (Jobs)	+0	+0	+0	+1,314	+1,294	+955	+192	+218	+220	+220
Installation, maintenance, repair occupations	Individuals (Jobs)	+0	+0	+0	+193	+193	+197	+108	+122	+121	+119
Production occupations	Individuals (Jobs)	+0	+0	+0	+48	+49	+80	+65	+71	+69	+68
Transportation, material moving occupations	Individuals (Jobs)	+0	+0	+0	+105	+107	+174	+160	+174	+170	+167

Otter Creek Summary Employment | Occupation | Summary Level

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Regional Simulation 1 compared to Standard Regional Control — Difference
Region = All Regions
Summary Level

2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
+129	+129	+129	+129	+129	+130	+131	+132	+133	+134	+135	+136	+136	+137	+137
+47	+47	+47	+47	+47	+47	+48	+48	+48	+49	+49	+49	+50	+50	+50
+16	+16	+16	+16	+16	+16	+16	+17	+17	+17	+17	+17	+17	+17	+17
+12	+12	+13	+13	+14	+14	+15	+15	+16	+16	+16	+17	+17	+17	+18
+15	+15	+15	+15	+15	+15	+15	+16	+16	+16	+16	+16	+16	+16	+16
+18	+19	+19	+19	+20	+20	+20	+21	+21	+21	+21	+22	+22	+22	+22
+13	+13	+14	+14	+14	+14	+14	+15	+15	+15	+16	+16	+16	+16	+16
+143	+147	+150	+154	+158	+162	+166	+171	+175	+180	+184	+188	+192	+195	+198
+112	+112	+113	+113	+114	+114	+114	+115	+115	+115	+115	+115	+115	+115	+115
+149	+155	+161	+166	+171	+175	+179	+182	+185	+188	+190	+192	+193	+194	+194
+103	+102	+102	+103	+103	+104	+104	+105	+106	+107	+108	+109	+109	+110	+110
+411	+408	+405	+404	+403	+404	+405	+406	+408	+410	+412	+414	+416	+416	+416
+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2
+217	+214	+211	+208	+206	+204	+204	+202	+201	+201	+200	+200	+199	+199	+198
+118	+117	+115	+114	+114	+113	+113	+112	+112	+112	+111	+111	+111	+110	+110
+67	+66	+65	+64	+63	+63	+62	+62	+61	+61	+61	+60	+60	+59	+59
+163	+161	+158	+155	+153	+151	+149	+147	+146	+144	+143	+141	+140	+138	+136

Otter Creek Summary

Gross Domestic Product | Real Gross Value Added by Sector, Fixed Dollars | Private Non-Farm | Sector Level

C:\Users\Pat.Barkey\Documents\REM\PI+ Montana Regions v1.3.5 (Build 2599)\Workbooks\Otter Creek with RR and taxes.rwb

Regional Simulation 1 compared to Standard Regional Control — Difference

Region = All Regions

Sector Level

Category	Units	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Forestry, Fishing, Related Activities, and (Thousands of Fixed (201	0	0	0	+4	+4	+5	+3	0	-5	-10
Mining	Thousands of Fixed (201	0	-1	-1	-85	-337	+56,511	+95,945	+138,913	+137,041	+136,750
Utilities	Thousands of Fixed (201	+1	+1	+0	+436	+115	+1,069	+1,520	+2,357	+2,249	+2,170
Construction	Thousands of Fixed (201	+12	+17	+20	+110,853	+110,725	+70,549	+4,410	+6,409	+7,243	+7,645
Manufacturing	Thousands of Fixed (201	+0	+1	+0	+467	+450	+365	+290	+367	+361	+347
Wholesale Trade	Thousands of Fixed (201	+6	+6	+6	+3,658	+5,032	+7,675	+8,107	+9,135	+8,955	+8,773
Retail Trade	Thousands of Fixed (201	+12	+13	+14	+5,701	+7,131	+12,010	+12,957	+14,772	+14,677	+14,603
Transportation and Warehousing	Thousands of Fixed (201	+0	0	0	+41	-30	-32	+9,022	+10,099	+10,078	+10,058
Information	Thousands of Fixed (201	+1	+1	+1	+157	+106	+236	+318	+386	+330	+283
Finance and Insurance	Thousands of Fixed (201	+2	+2	+2	+454	+374	+771	+1,115	+1,351	+1,250	+1,157
Real Estate and Rental and Leasing	Thousands of Fixed (201	+8	+8	+8	+2,078	+1,809	+3,639	+4,745	+6,001	+5,858	+5,611
Professional and Technical Services	Thousands of Fixed (201	+232	+232	+233	+1,620	+1,847	+2,139	+2,369	+2,869	+2,841	+2,794
Management of Companies and Enterprise	Thousands of Fixed (201	+0	0	0	-2	-20	-16	-13	-3	-8	-9
Administrative and Waste Services	Thousands of Fixed (201	+5	+5	+5	+980	+1,012	+1,408	+1,608	+2,049	+2,075	+2,087
Educational Services	Thousands of Fixed (201	+0	+0	+0	+25	+30	+75	+118	+155	+170	+182
Health Care and Social Assistance	Thousands of Fixed (201	+12	+11	+12	+4,797	+4,924	+8,963	+9,952	+12,031	+12,168	+12,412
Arts, Entertainment, and Recreation	Thousands of Fixed (201	+0	+0	+0	+94	+89	+205	+289	+363	+372	+379
Accommodation and Food Services	Thousands of Fixed (201	+4	+4	+4	+1,193	+1,353	+2,235	+2,513	+3,118	+3,351	+3,564
Other Services, except Public Administrati	Thousands of Fixed (201	+4	+4	+4	+1,749	+1,718	+2,409	+2,311	+2,752	+2,688	+2,640

Otter Creek Summary

Gross Domestic Product | Real Gross Value Added by Sector, Fixed Dollars | Private Non-Farm | Sector Level

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Regional Simulation 1 compared to Standard Regional Control — Difference

Region = All Regions

Sector Level

2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
-15	-19	-22	-25	-28	-30	-32	-33	-34	-36	-37	-38	-39	-41	-42
+136,466	+136,338	+136,162	+136,064	+136,055	+135,990	+136,094	+136,099	+136,230	+136,430	+136,577	+136,820	+137,094	+137,394	+137,717
+2,117	+2,085	+2,063	+2,050	+2,041	+2,031	+2,024	+2,014	+2,003	+1,990	+1,973	+1,956	+1,936	+1,914	+1,889
+7,801	+7,848	+7,862	+7,885	+7,970	+8,110	+8,305	+8,468	+8,661	+8,901	+9,168	+9,494	+9,813	+10,112	+10,405
+333	+320	+310	+304	+301	+301	+303	+306	+310	+314	+319	+325	+330	+334	+338
+8,615	+8,490	+8,390	+8,311	+8,257	+8,221	+8,204	+8,201	+8,216	+8,253	+8,294	+8,358	+8,412	+8,461	+8,508
+14,556	+14,544	+14,558	+14,598	+14,670	+14,766	+14,889	+15,049	+15,249	+15,481	+15,709	+15,970	+16,199	+16,403	+16,597
+10,048	+10,047	+10,053	+10,063	+10,077	+10,094	+10,112	+10,132	+10,153	+10,175	+10,199	+10,224	+10,251	+10,278	+10,308
+246	+219	+201	+189	+184	+182	+184	+189	+194	+201	+206	+215	+220	+224	+226
+1,076	+1,012	+963	+927	+902	+887	+880	+881	+884	+893	+904	+921	+935	+946	+958
+5,311	+5,001	+4,711	+4,447	+4,218	+4,028	+3,869	+3,745	+3,633	+3,539	+3,447	+3,374	+3,283	+3,181	+3,057
+2,749	+2,720	+2,708	+2,713	+2,734	+2,769	+2,814	+2,869	+2,927	+2,991	+3,058	+3,131	+3,200	+3,265	+3,329
-7	-2	+6	+15	+25	+35	+46	+56	+66	+76	+85	+93	+100	+107	+113
+2,097	+2,112	+2,133	+2,158	+2,188	+2,223	+2,263	+2,308	+2,354	+2,405	+2,455	+2,509	+2,558	+2,603	+2,646
+191	+200	+207	+213	+219	+225	+230	+235	+240	+244	+249	+253	+257	+261	+265
+12,731	+13,123	+13,571	+14,041	+14,544	+15,079	+15,647	+16,257	+16,850	+17,476	+18,093	+18,743	+19,351	+19,906	+20,442
+387	+395	+403	+412	+421	+431	+442	+453	+464	+475	+486	+497	+507	+514	+521
+3,755	+3,929	+4,085	+4,225	+4,351	+4,462	+4,565	+4,663	+4,748	+4,823	+4,889	+4,951	+4,998	+5,032	+5,057
+2,601	+2,574	+2,558	+2,548	+2,547	+2,553	+2,566	+2,588	+2,609	+2,638	+2,667	+2,705	+2,734	+2,757	+2,778

Otter Creek Summary Industries

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Regional Simulation 1 compared to Standard Regional Control — Difference

Region = All Regions

Industries

Category	Units	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Employment	Individuals (Jobs)	+6	+6	+6	+2,626	+2,648	+2,585	+1,481	+1,740	+1,740	+1,739
Employment as % of Nation	Percent	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
Regional Purchase Coefficient	Proportion	0	0	0	0	0	0	0	0	0	0
Average Annual Wage Rate	Thousands of Current Dc	0	+0	+0	+0	+0	+0	+0	+0	+0	+0
Average Annual Compensation Rate	Thousands of Current Dc	0	0	+0	0	+0	+0	+0	+0	+0	+0
Average Annual Earnings Rate	Thousands of Current Dc	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
Demand	Millions of Fixed (2012) I	+4	+4	+4	+673	+730	+559	+1,292	+1,466	+1,465	+1,461
Imports of Goods and Services	Millions of Fixed (2012) I	+4	+4	+4	+444	+496	+357	+1,177	+1,326	+1,322	+1,318
Self Supply	Millions of Fixed (2012) I	+0	+0	+0	+229	+234	+202	+115	+140	+142	+144
Exports of Goods and Services	Millions of Fixed (2012) I	+0	+0	+0	+19	+17	+111	+179	+261	+259	+258
Output	Millions of Fixed (2012) I	+0	+0	+0	+248	+251	+313	+294	+400	+402	+402
Value Added	Millions of Fixed (2012) I	+0	+0	+0	+141	+144	+175	+157	+210	+209	+209
Wage and Salary Disbursements	Millions of Fixed (2012) I	+0	+0	+0	+74	+82	+108	+81	+88	+86	+83
Compensation	Millions of Fixed (2012) I	+0	+0	+0	+94	+103	+137	+104	+114	+111	+109
Earnings by Place of Work	Millions of Fixed (2012) I	+0	+0	+0	+114	+123	+154	+109	+119	+116	+112
Labor Productivity	Thousands of Fixed (200	0	0	0	0	0	+0	+0	+0	+0	+0
National Deflator	2005=1 (Nation)	0	0	0	0	0	0	0	0	0	0

Otter Creek Summary Industries

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Regional Simulation 1 compared to Standard Regional Control — Difference

Region = All Regions

Industries

2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
+1,736	+1,735	+1,736	+1,738	+1,743	+1,750	+1,758	+1,768	+1,776	+1,787	+1,795	+1,805	+1,810	+1,813	+1,813
+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
+1,458	+1,456	+1,454	+1,453	+1,452	+1,452	+1,453	+1,455	+1,457	+1,460	+1,463	+1,467	+1,470	+1,472	+1,475
+1,313	+1,310	+1,308	+1,305	+1,304	+1,303	+1,302	+1,302	+1,303	+1,304	+1,304	+1,306	+1,307	+1,308	+1,308
+145	+146	+146	+147	+148	+150	+151	+153	+155	+157	+159	+161	+163	+165	+166
+258	+257	+257	+258	+258	+258	+258	+259	+259	+260	+260	+260	+260	+260	+260
+402	+403	+404	+405	+406	+408	+410	+411	+414	+416	+418	+421	+423	+425	+427
+209	+209	+209	+210	+210	+211	+212	+214	+215	+217	+219	+220	+222	+224	+225
+81	+79	+77	+76	+75	+74	+73	+73	+73	+74	+74	+74	+75	+75	+76
+107	+105	+103	+102	+101	+100	+100	+100	+100	+101	+101	+102	+103	+104	+104
+108	+105	+103	+101	+99	+98	+97	+97	+97	+97	+98	+99	+99	+100	+100
+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0